FINAL ARCHAEOLOGICAL INVESTIGATIONS

OF THE GLATZ SITE,

ROUTE 7 NORTH, NEW CASTLE COUNTY, DELAWARE

DELDOT PROJECT 83-101-01 DELDOT ARCHAEOLOGY SERIES NO. 60

FHWA FEDERAL AID PROJECT F-1045(16)

By

Wade P. Catts and David C. Bachman

UNIVERSITY OF DELAWARE
Department of Anthropology
Center for Archaeological Research

Submitted To

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

and

DELAWARE DEPARTMENT OF STATE
Division of Historical and Cultural Affairs
Bureau of Archaeology and Historic Preservation

Prepared For

DELAWARE DEPARTMENT OF TRANSPORTATION
Division of Highways
Location and Environmental Studies Office

John T. Davis
Director
Division of Highways

Doc. Con. No.
55-04/87/09/03

1987

ABSTRACT

Archaeological excavations at the Bernard Glatz House site (7NC-D-102) on Limestone Road (Route 7) in northern New Castle County, Delaware, recovered domestic and commercial artifacts, and identified features associated with a 19th and early 20th century occupation. Archival research indicated that the house site had been occupied by a cordwainer, Bernard Glatz, from 1833 to 1845. Comparisons of Glatz' economic standing with other tradesmen and farmers living in northern New Castle County during that time indicate that Glatz was not a prosperous man and that he ranked among the lower one-third of Mill Creek Hundred residents. Patterns of refuse deposition at the site were similar to those associated with 18th century occupations, even though the vast majority of the artifacts post-dated 1830. The Glatz property was probably part of a single street village which was emerging around the nearby Mermaid Tavern during the early 19th century.

PRINCIPAL INVESTIGATOR'S PREFACE

Archaeological investigations at the Bernard Glatz site were undertaken under "emergency salvage" conditions. The site was located partly within the proposed right-of-way of the Route 7 North highway corridor and partly on private land scheduled for development and construction of an office complex. After the initial identification of the site, grading for the construction of the office complex began. The plowzone of the site was removed and a series of subsurface features, including a house foundation, were exposed. At that time the developer allowed for the salvage excavations, which were accomplished in one week. This report describes the results of these excavations and subsequent archival research. As a result of these studies, we now have a glimpse of the life of a shoemaker who lived and worked in a small rural hamlet. Bernard Glatz was not a rich, or prosperous man, and the study of his material culture in comparison with that of other individuals provides insights into the archaeological study of socioeconomic status.

Jay F. Custer
Principal Investigator
August 1987

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

INTRODUCTION

The purpose of this report is to describe salvage archaeological operations conducted at the 19th century Bernard Glatz (or Glatts) house site (7NC-D-102) along Limestone Road (Route 7), in northern New Castle County, Delaware (Figure 1). The site was first located during a Phase I survey of of Limestone Road conducted in 1985 (Catts, Shaffer, and Custer 1986:78-83). The survey work was undertaken by the University of Delaware Center for Archaeological Research for the Delaware Department of Transportation and the Federal Highway Administration under section 106 of the National Historic Preservation Act to evaluate the effects of the proposed relocation of Delaware Route 7 on significant, or potentially significant, cultural resources as defined by the National Register of Historic Places (36 CFR 60). The Glatz site was located within and adjacent to the proposed project right-of-way (ROW), and Phase II excavations were recommended for the site. However, before Phase II excavations began, immediate destruction of the site was threatened by a private construction project adjacent to the DelDOT ROW. Salvage operations were begun immediately by UDCAR field crews during the week of March 20, 1985 (Plate 1). Salvage excavations constituted data recovery and this was reflected in the excavation methods. Because the plowzone had been mechanically stripped by the contractor, only undisturbed features, or portions thereof, could be excavated. The excavated features and archival data form the basis for the analysis and interpretation of the site.

FIGURE 1

Project Area Location

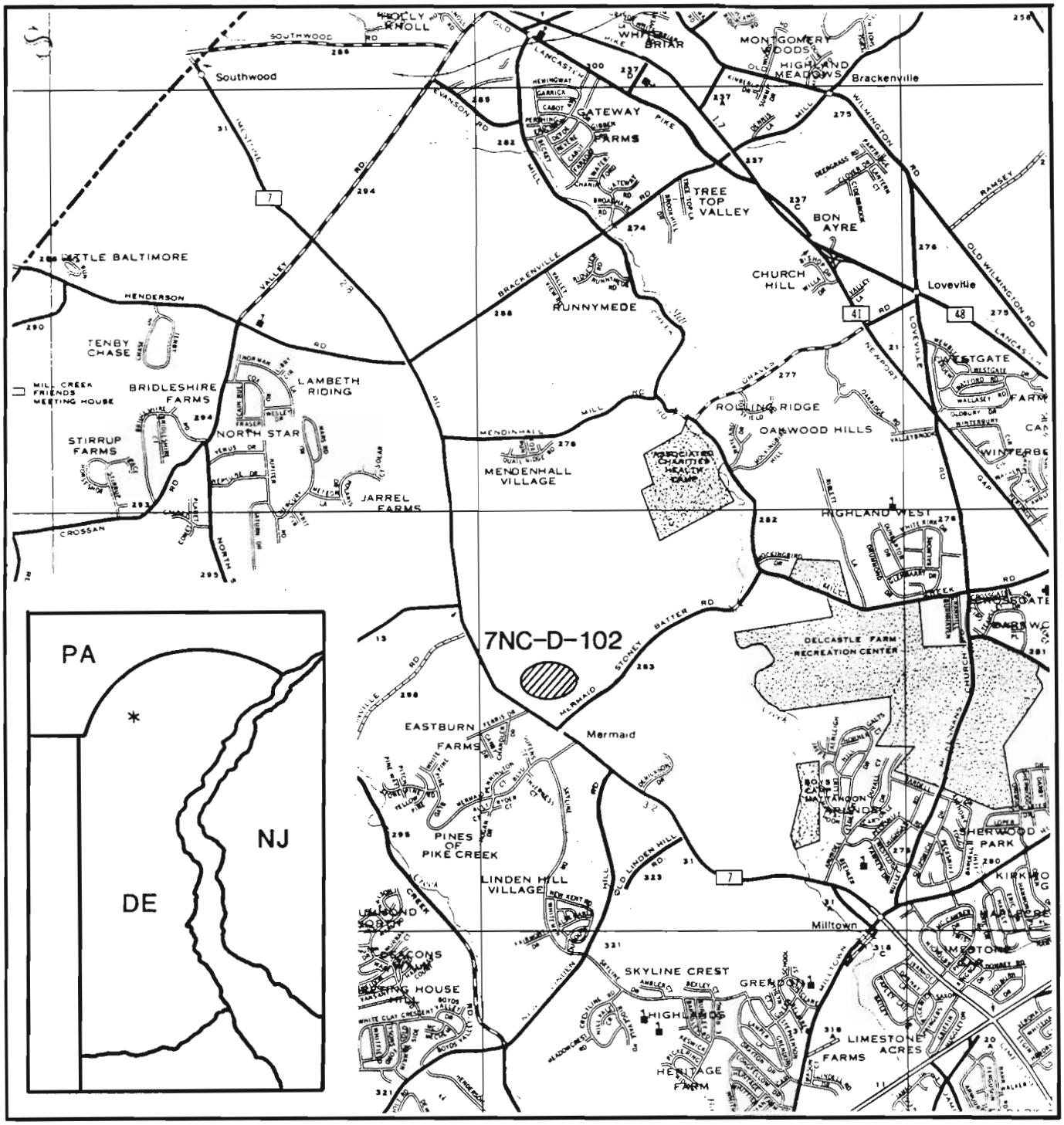


PLATE 1

Salvage Excavations at the Glatz Site

Appreciation for their help, information, interest and support is extended to Paul Betty, Gordon Lester, Sarah Evans and Joseph Eastburn. Appreciation for their support, administration, research and services is also extended to all the involved individuals:

Division of Highways
Raymond M. Harbeson, Jr., Deputy Director, Division of Highways
Joseph T. Wutka, Jr., Location Studies and Environmental Engineer
Kevin W. Cunningham, DelDOT Archaeologist
Nicholas S. Blendy, Environmental Planner
Terry Fulmer, Environmental Planner
Carol L. Kates, Secretary
JoAnna Likens, Project Scheduling and Support

Federal Highway Administration
Charles J. Nemmers, Division Administrator
A. George Ostensen, Field Operations Engineer
Michael J. Otto, Area Engineer

Bureau of Archaeology and Historic Preservation
Daniel R. Griffith, Bureau Chief
Faye L. Stocum, Archaeologist
Alice H. Guerrant, Archaeologist
Steve Delsordo, Historian

University of Delaware
Juan Villamarin, Chairman, Department of Anthropology

Division of Graphics and Printing
Ray Moore, Shop Supervisor
John Bordley, Pressman
Charles Pritchard, Pressman
Bob Farley, Pressman
Jeff Faulkner, Pressman
William Yerkes, Pressman
Dorothy Hutchins, Machine Person
Joan Pillsbury, Bindary Clerk
Grace Steele, Graphics Spec.

Hockessin Public Library
Sharon Hall, Librarian

Overviews of the regional environmental setting of the project area and the regional history are presented below.

Environmental Setting

The Glatz site is located in the Delaware Piedmont Uplands. The summary of the local environmental setting presented below is abstracted from the work of Custer (1984:23-25) and Custer and DeSantis (1985).

The Piedmont Uplands of Delaware represent the northernmost portion of the Delmarva Peninsula and are characterized by a diversified relief dissected by narrow and deep stream valleys with isolated knolls rising above the general upland level (Spoljaric 1967:3). Thornbury (1965:88) notes that within the Piedmont Uplands there are no large tributaries of the older incised river systems, the Susquehanna and the Delaware. Rather, there are a number of smaller, lower order drainage systems. Some large floodplains can be found along some of the higher order streams such as the White Clay Creek and the Brandywine, Elk, and Northeast rivers. However, these settings are uncommon. Elevation differences of up to 82 meters (270 feet) can be found between small floodplains of the numerous drainages and the tops of the adjacent knolls, and these elevation differences are sufficient to cause changes in tree community distribution (Braun 1967:192-194). Soils of the Piedmont Uplands can generally be characterized as well-drained with some poorly-drained areas in floodplains and upland flats. The Glatz site is located on a knoll adjacent to the head of a low order ephemeral stream.

Regional History

The following regional history is abstracted from two previous DelDOT reports (Coleman et al. 1984; Coleman et al.

1985) and from the Archaeological Society of Delaware publication "Current Research in the Historic Archaeology of Northern Delaware" (Custer and Cunningham 1986). A complete bibliography can be found in these reports.

The first historic settlement in what is now Delaware was a whaling station established by the Dutch West India Company in 1630 near the present town of Lewes. However, this post was destroyed by Indians in 1631 and no settlement in that area was attempted again until 1659. A Swedish colony was established in 1638 at Fort Christina near the present site of Wilmington by the New Sweden Company. Although the land was claimed by the Dutch, it was little used and was unsettled when the Swedes arrived. By 1654 a small village, Christinahamm, existed behind the fort, and approximately 400 Swedish, Finnish, and Dutch settlers resided in the area.

In 1655, the uneasy coexistence between the Swedes and Dutch was abruptly ended when the Dutch seized control of New Sweden. Dutch Fort Casimir, established in 1651, and the town of New Amstel (modern New Castle) became the economic and commercial center for the lower Delaware Valley. Ownership of the Delaware region changed hands again in 1664, when the English took control of all Dutch possessions in the New World. In 1682, the granting of proprietary rights to William Penn and his representatives gave economic and political control of the Delaware region to Philadelphia, the new seat of government (Munroe 1978).

The settlement pattern for this early period was one of dispersed farmsteads located along the Delaware and its tributaries, such as the Christina, Appoquinimink, Brandywine,

Mill Creek, White Clay and Red Clay Creeks, where the land possessed good agricultural qualities. The Swedish and Dutch settlers had pushed their settlement far up the valley of the Christina toward the Elk River. The town of Christina Bridge (modern Christiana), so named because it was the crossing place of that river, was established by about 1660 at the head of navigation of the Christina.

With the arrival of Penn in the 1680's, settlers pursued an individualistic system of land settlement, with the proprietors granting tracts or parcels of land. Penn usually granted land to families, the standard size being about 500 acres. In the study area, between the confluences of Mill Creek and Ball's Run extending northward, property sizes at the end of the seventeenth century ranged between 100 and 700 acres, but there were also nearby tracts of over 1000 acres. These large grants belonged to land speculation companies, such as the London Company, or to the friends and relatives of the Proprietors, such as Letitia Penn's Manor of Stenning. Based on contemporary deeds, and land warrants and surveys, there were only about a dozen land owners in the study area at the turn of the eighteenth century.

By 1683 the cultivated areas of the region consisted of the three lower counties, New Castle, Kent, and Sussex, and three Pennsylvania counties, Philadelphia, Buckingham (Bucks), and Chester. The total population of all six of these counties in 1683 has been estimated to have been about four thousand people. In New Castle County five tax districts, called Hundreds, had already been established by 1687. With the growth of the

population, four more hundreds were created in 1710, with Mill Creek Hundred, which includes the study area, being one of these (Conrad 1908:287).

With the exception of the port towns of Philadelphia and New Castle, there were no other major commercial or social centers in the area during the seventeenth century. The small hamlets that were established were situated on the major transportation routes of the period, almost always on a navigable watercourse. Few were located inland, for the road network was almost nonexistent. An exception to this was "Ogle's Town", which was located along the road to the Elk River as early as 1679. The villages of Christina Bridge and Cantwell's Bridge (present-day Odessa) were the only hamlets of any size in the area and both were located on major rivers and roads.

In the New Castle County region, water transportation was the major mode of travel and commerce in the late seventeenth century. Most of the farmstead tracts and land grants had frontage on a water course to ensure that communication and the moving of produce to local markets could be accomplished (Hoffecker 1977). In a country that was heavily wooded with a mixture of oaks, walnut, hickory, chestnut, and maple, water travel was the easiest, safest, and most effective means of transport. Overland travel was extremely difficult, because roads were few in number and very poor. Even the road from New Castle to Christina Bridge, probably the area's major overland transportation route, was in horrible condition. A 1702 survey map of the study area has no indication of the location of Limestone Road. Generally, the roads in the area were simply

intra-regional connectors to the coastal towns.

Swedish settlers in the region grew rye and barley on their farms, but later immigrants quickly replaced these grains with wheat when it was found that it could be grown more easily. More importantly, it was realized that wheat was a marketable commodity, and the farmers and settlers in the area soon shifted from a subsistence-oriented to market-oriented agriculture. Wheat, and to a lesser extent corn, were grown and then shipped by water to local milling sites. The transportation of grains to milling sites supported an extensive coastwide trade employing shallops or other similar boats. Milling sites were among the earliest manufacturing complexes in the region. There was a mill in New Castle by 1658, and one on Red Clay Creek by 1679 (Pursell 1958). Villages such as Christiana Bridge, Newport, and Appoquinimink grew larger as a result of this shipping trade, and became market places for the surrounding country. By the start of the eighteenth century, the region was beginning to be recognized as a wheat and grain producing area.

Unsuccessful attempts at the mining and smelting of iron ore were tried in the Delaware region during the seventeenth century. In Delaware, the Iron Hill area in western Pencader Hundred was an area known to contain iron deposits by 1673, the date of publication of Augustine Hermann`s map which labels the spot "Yron hill". The manufacture of iron became more widespread with the start of the eighteenth century. By 1716, iron production was well established in Pennsylvania. In Delaware, Sir William Keith had started a blast furnace on the slopes of Iron Hill by

1725, and a bloomary furnace was known to be in operation near St. James Church in Mill Creek Hundred, operated by John Ball (Swank 1884: 142, 179). From documentary sources, it appears that Ball purchased the land in 1706, and erected the bloomary soon thereafter. Deed records indicate that he was a blacksmith by trade.

Mill Creek Hundred and New Castle County were part of a broader regional economy that was centered in Philadelphia. This city, in the last quarter of the seventeenth century, quickly began to dominate the economic scene in the lower Delaware Valley. New Castle County was part of Philadelphia's agricultural and commercial hinterland, along with western New Jersey, northeast Maryland, southeastern and northeastern Pennsylvania, and Kent and Sussex counties in Delaware. Farmers in the region sent their grains to the local milling centers, where the wheat flour was then shipped to Philadelphia for export to the West Indies, other North American colonies, and southern European countries. The farmers in New Castle County quickly adapted to this market system of agriculture and it is estimated that over one-half of the farmers in the area were situated within eight miles (or a half-day's journey) of a mill or shipping wharf (Walzer 1972:163).

Settlement in New Castle County during the 18th century continued much as it had in the previous century. In the Philadelphia region, there was a large influx of immigrants between 1725 and 1755, particularly Scotch-Irish, most of whom were indentured servants. As the transportation network improved, colonists began to move inland away from the navigable

rivers and streams. Good, productive land was settled first, but as the population began to grow, marginal property was also occupied. The size of farms in New Castle County ranged between 100 and 200 acres. The decline in the size of landholdings from the seventeenth century was due to a tendency for the large grants and tracts to be divided and subdivided by sale and inheritance (Munroe 1954:19). By mid-century, improved land along Limestone Road was selling for a little over one Pennsylvania pound per acre. In the study area, settlement began in earnest in the first quarter of the eighteenth century. Deed records become more common during this period, and several extant houses in the vicinity of Limestone Road were constructed at this time. The Simon Hadley house (1717), located near the Chester County line, and the Mermaid Tavern (1720's), both contain sections that date to this period. The Armor house, which also dates to the 1720's, was probably erected by the blacksmith noted above, John Ball.

In regards to urbanization, Lemon (1967, 1972) has divided the eighteenth century in the Philadelphia region into three periods of growth. The first period (1700 to 1729) was one of urban stagnancy after the initial rapid growth of the seventeenth century. However, hamlets which were unplanned towns that sprang up at crossroads and around taverns, ferries, churches, and mills, did begin to appear at this time. Ogletown, in White Clay Creek Hundred, and the Mermaid - Stoney Batter Road intersection on Limestone Road, are examples of eighteenth century hamlets in New Castle County. Both were located at

crossroads on major transportation routes. The second period of urbanization that Lemon recognizes (1730 to 1765) saw a renewal of town growth based on internal trade. Towns such as Newport, Cuckholdstown (modern Stanton), Milltown, Hockessin (then known as "Ockesson") and Newark were established and prospered during this period. Christina Bridge, which had stagnated since the 1680's, saw growth and prosperity as a major grain transshipment port for produce coming from the Upper Chesapeake Bay area.

The town of Stanton, known as Cuckoldstown as early as 1746, became an important milling and grain center in the late eighteenth century. A grist mill is known to have been in the vicinty of Stanton by 1679, and by 1800 the town rivaled Newport as a local grain processing center. Ships of moderate draft were able to navigate up the Red Clay Creek and take on local farm produce, as well as products from southeastern Pennsylvania which had been transported overland down the Limestone Road. Located at the confluence of Red and White Clay Creeks, Stanton was never a large town. A map of the New Castle County region, drawn in 1777, did not include the location of Stanton, and a travelers' guide, published in 1789, showed only a mill and ten houses in the vicinty of the town (Colles 1961:170). Hockessin, or Ockesson, grew around the location of the Hockessin Friends Meeting House, constructed in 1738. Nearby were a school and a blacksmith shop, the only structures in the hamlet until the 1820's.

Wilmington was by far the largest urban center in New Castle County that developed in this period. Chartered in 1739, Wilmington soon became a port of entry and a post town, and was

an important link in the Philadelphia trading network. Of special significance to the city's location was its proximity to the Brandywine Mills. Wilmington was thus a receiving center for local and regional farm produce, brought by water from Christina, Stanton, and Newport, and shipped up the Delaware to Philadelphia (Lindstrom 1978; Walzer 1972).

Lemon's third period of urban development (1766-1800) was marked by less noticeable town growth which paralleled more erratic economic patterns. Little growth in the towns of New Castle County took place during this period. However, increases in population and land tenancy were noted (Lemon 1972:216).

The conditions of roads in New Castle County improved considerably over the course of the eighteenth century, but in some locations they were unsatisfactory even by contemporary standards. Most improvement was due to both population growth and interregional trade. By 1750, the roadbeds of many of the area's present-day state roads (Routes 4, 7,and 273; portions of Pennsylvania's Route 896) were already established. Prior to the Revolutionary War, there were probably four main thoroughfares in the study area: The Old Wilmington Road, the road from Ockesson Meeting House to Cuckoldstown (established in the 1730's), the Kemblesville Road, running from Chester County to Corner Ketch, and the Limestone Road. All sources consulted agreed that Limestone Road was never formally laid out by either the New Castle County or Chester County legislatures; at least the Court records that would have established the road do not exist (Futhey and Cope 1881:354; Cooch 1936:80; Ward 1968:114). Throughout

the eighteenth century, the road was known by a number of different titles -- "the Newport Road", "the Great Limestone Road", "the Limerock Road", and "the Road from Stanton to Lancaster" -- but by the beginning of the nineteenth century it was known as the Limestone Road.

The first reference to the road by name, that research for this project was able to locate, dated to 1726 when it was called the "Limekiln Road". Limestone was used as a flux in eighteenth century blast furnaces, a large number of which were in operation in Chester County by the second decade of the eighteenth century (Swank 1884:142). By about this same time, as noted previously, Sir William Keith had established an iron furnace at Iron Hill (Heite 1983:155). The use of limestone as a fertilizer was not yet realized in the eighteenth century.

Based on these dates and events, and the known influx of colonists to the area which resulted in the formation of Mill Creek Hundred in 1710, it is probable that the Limestone Road was initially laid out in the first quarter of the eighteenth century. In addition to its use as a major transportation route for agricultural produce, the road may also have functioned as an overland route for the transport of burned and unburned limestone, which was quarried in the vicinty. It is conceivable that the road's major orientation was from south to north, or from the limestone quarries to the Chester County furnaces, and not southwards, towards the navigable streams.

The roadbed of the Limestone Road followed a course of easy grades and few fording places, the deepest being at Mill Creek, just north of Milltown. This crossing was bridged in 1836.

Throughout the eighteenth and nineteenth centuries, the road was utilized by teamsters because of its easy grades and because, unlike the Newport and Gap Turnpike located to the east, it was not a toll road.

Farming in the eighteenth century in New Castle County continued to be a system of mixed husbandry, combining the cultivation of grains with the raising of livestock. Farming was the most important occupation for between 80 and 90 percent of the area's population (Egnal 1975). Wheat continued to be the primary grain produced, followed by rye, corn, barley, oats, and garden vegetables. In many areas, generations of repeated tillage had begun to exhaust the soil. Agricultural practices in New Castle County followed an extensive, rather than an intensive, use of the land (Lemon 1972:179).

Delaware's manufacturing capacity in this century began to become realized. During the 18th century, the iron industry, lumber products, and grain milling enterprises continued to grow and prosper. New industries were started that engaged in the preparation of snuff from tobacco, the production of salt from brines in lower Delaware, and the rudimentary beginnings of the textile industry. By the end of the century Delaware was one of the leading manufacturing states and Wilmington and its environs constituted one of America's leading industrial areas.

In the northern Delaware area, the nineteenth century was marked by rapid industrial and urban growth and population expansion, and was accompanied by a noticeable decline in the number of people engaged in agriculture. The rapid growth of the

population during the early decades of the century forced many new farmers in the Middle Atlantic area to clear and farm lands of poor or marginal quality. Many of these farmers were hard pressed to turn a profit from their farmsteads, and this resulted in an outmigration of a large portion of the population during the 1820s and 1830s to better lands to the west, particularly in the Ohio River Valley (Hancock 1947). However, the loss of jobs related to agriculture was partly offset by the development of new sources of income and employment in urban and industrial contexts. Thus, much of the surplus population, which in previous centuries had been farm laborers, tenants, or unemployed, moved into urban and industrial centers where jobs were more plentiful. These trends occurred over the first half of the nineteenth century, and by 1860 were well established (Lindstrom 1979).

Urbanization in New Castle County during the first quarter of the century was closely tied to transportation routes and agricultural and industrial production. However, most of the towns of importance in the eighteenth century, which were settled because of their location on major transportation arteries, remained major marketing, milling and shipping centers for only a brief period into the nineteenth century.

In the first half of the nineteenth century, methods and routes of transportation underwent substantial changes in New Castle County as first turnpikes, then canals, and finally railroads were introduced. Throughout the century, improved transportation was the key to urban, agricultural, and industrial development. The first successful turnpike in Delaware, and the

one that is most important to the history and development of the study area, was the Newport and Gap Turnpike, begun in 1808. Although the pike was a more direct route to the wharves of Newport, it was a toll road, had numerous grades, and crossed several watercourses, all of which made the Limestone Road an important and well-traveled alternative transportation route for teamsters throughout most the nineteenth century. By 1820, Mill Creek Hundred had 74.5 miles of roads, rating it number two out of the nine hundreds in the County, second only to Appoquinimink Hundred.

The most significant canal built in Delaware was the Chesapeake and Delaware Canal, completed in 1829. Originally planned to connect the Elk and Christina rivers, it was later constructed across the Delmarva Peninsula below New Castle, just north of Reedy Island. The canal was expected to bring wealth and prosperity to the communities of northern Delaware, and in fact, two new towns were constructed at the termini of the Canal, Delaware City and Chesapeake City. Instead of widespread prosperity, however, the canal contributed to the economic decline of Christina, Newport, Stanton, and New Castle, as goods previously shipped overland across the peninsula could now be sent more cheaply by water. Even Chesapeake City and Delaware City were disappointed in their expected economic boom, and growth in these towns was slow. Only Wilmington, fast becoming an important regional industrial town, benefited from the Canal. Although not the original purpose of its construction, the Canal also came to serve as a border between two distinct socio-

cultural sections of Delaware: the industrial/commercial area of northern New Castle County, and the agrarian communities of southern New Castle, Kent, and Sussex counties. The Canal would continue to function as a borderline throughout the remainder of the century, and does so today.

Railroads came to New Castle County in the 1830s. The first line, the New Castle and French Town Railroad, was constructed in 1832 as a direct result of the opening of the Chesapeake and Delaware Canal, and was an effort to compete with that transportation route (Hoffecker 1977:43). In 1838, the Philadelphia, Wilmington, and Baltimore Railroad was completed, and quickly became the major transportation route across the peninsula. Throughout the remainder of the century, rail lines continued to be built in northern New Castle County, such as the Baltimore and Ohio, the Wilmington and New Castle, and the Wilmington and Western railroads. This last named line intersected the Limestone Road a few hundred feet south of the State line, at Southwood Station. The towns of Newark, Stanton, Hockessin and Newport benefited from their proximity to these railroads, staving off the economic stagnation and decline that were experienced by Christina, Ogletown, and Glasgow. Locally, the advent of the railroad, and with it cheaper and more efficient means of transporting goods and produce, marked the end of the prevalence of taverns on Limestone Road. The Mermaid Tavern lost its license in 1869, and Tweed's Tavern, located at the intersection of Valley Road and the Limestone Road, probably had closed prior to that date.

New Castle County continued to be predominately agricultural throughout the nineteenth century. In Mill Creek Hundred in 1804, there were 475 taxables, the overwhelming majority of whom were farmers, or worked in some related field, such as blacksmithing, coopering, or carpentry. At that time there were 99 log houses, 48 stone houses, and 21 brick houses in the Hundred (New Castle County Tax Lists, 1803-04).

At the start of the 1800s however, agriculture in New Castle County was in a dismal situation. Farming practices continued much as they had during the previous century with the use of the four field system of cropping. Wheat was the dominant crop and the use of fertilizers was infrequent. A large number of tenant farmers worked the land. Production was, on the whole, quite low during the first quarter of the century. The revival of the New Castle County Agricultural Society in 1818, one of the first such organizations in the nation, encouraged farmers in the use of improved drainage techniques, fertilizers, and machinery. With these developments, New Castle County was on its way to becoming one of the finest agricultural counties in the United States by 1860. Fertilization, farm machinery, and improved drainage were helpful in this agricultural success, but the county's rich natural resources, its fine transportation network, and the proximity of cities were advantages with which other areas, particularly Kent and Sussex counties, found it difficult to compete. Mill Creek Hundred contributed to this agricultural success through the quarrying and transporting of limestone for fertilizer. Many of the families in the study area maintained quarries and kilns, such as the Eastburn's, Black's, and Jeanes'.

By 1850, there were at least twenty limestone kilns in the vicinity of Limestone Road (Cooch 1936:43).

Tenant farming, which had been quite common in the eighteenth century, became even more prevalent during the nineteenth century. Large land owners, having acquired much of their holdings during the hard times of the 1820s and 1830s, leased their lands to tenants. Most land owners were white farmers, while some tenants and farm laborers, particularly in Kent and Sussex counties, were black. In other cases, the tenant was a member of the land owner's family, as was the situation with the Robert Ferguson farm (Coleman et al. 1983). By 1900 over 50% of all the farmers in Delaware were tenants or share croppers. Tenancy remained a dominant farming practice into the twentieth century (Bausman 1933:165).

Regional development during the nineteenth century was much more complex than in the previous decades, primarily due to the great strides in industrialization, urbanization, and transportation that were part of the Industrial Revolution. The first half of the century witnessed a noticeable decline in Philadelphia's economic influence over the region, caused by Baltimore's rise, the competition for markets between the two cities, and a drop in the consumption by foreign markets of Philadelphia's agricultural produce. The area responded by diversifying its agricultural production, but primarily it devoted increasingly more of its resources to manufacturing (Lindstrom 1978:122).

Much of the reemergence and success of both industry and agriculture in Delaware can be attributed to improved transportation facilities beginning in the 1830's. The linking of Wilmington by railroad with Baltimore and Philadelphia in 1837 provided not only Wilmington, but also its hinterland, with excellent markets both for the purchase of raw materials and the sale of finished products. Contained within this hinterland was also a sizable population of skilled mechanics and machinists who were able to perform the skilled labor required by the new technologies. This combination of good transportation, a large trained labor pool, and a ready supply of raw materials allowed industry in northern New Castle County to grow and diversify very rapidly into the 20th century (Hoffecker 1977).

In the 1920s, the newly formed Delaware Department of Transportation conducted several road projects on Limestone Road. These projects followed the route of the existing highway, and did not materially alter the road's course or width. In 1964, DelDOT undertook a major realignment and widening project on Limestone Road, which altered and changed the grade, width, and course of the road, notably at the Milltown intersection, from Mill Creek to New Linden Hill Road, at Chambers' Hill, and between Route 72 and Mendenhall Road. Due to this construction, many of the structures and dwellings in the Limestone Road project area that had survived into the twentieth century were demolished and removed.

BACKGROUND RESEARCH RESULTS

Background research was intended to aid in the temporal identification of the occupation, document the history of land use of the property, and to help identify the occupants and their activities through time. A chain of title for the Glatz property appears in Table 1. The surname Glatz was spelled in two different ways during the 19th century: Glatz and Glatts, both of which were interchangable. We have chosen to use the former when referring to the site and occupant. The property size was 7 or 7 1/2 acres from the late 18th century up to 1847, when the parcel was decreased to 4 and 1/2 acres. In the 19th century, the average size for a working cash crop farm along this road was over 100 acres. Thus, the Glatz property size was too small to produce anything more than subsistence crops. Archival research revealed that the occupants of the site were mainly craftsmen or artisans and used the property to produce food for their own personal consumption. Tax assessments for Mill Creek Hundred for the 1790s suggest that a dwelling house was first placed on the property toward the end of that decade. The Mill Creek Hundred assessment of 1798 lists John Fitzsimmons as being assessed for 7 acres of land valued at $35, a log house, $10 worth of livestock, $10 worth of personal property, $134.66 worth of personal tax, and a total value of real estate and personal property of $179.66. Fitzsimmons also appeared two years earlier in the assessment of 1796 and at that time was assessed for a total worth of two pounds. A conversion factor of $48 per pound has been calculated for an analysis of White Clay Creek Hundred tax data (Coleman et al. 1983:Appendix III) and that figure is used

TABLE 1

CHAIN OF TITLE FOR GLATZ PROPERTY

Transaction	New Castle County Deed Reference	Date	Acreage
William Addy to John Fitzsimmons, Sr.	------	6-9-1785	7a
William Addy to John Fitzsimmons, Sr.	------	8-13-1796	20p
John Fitzsimmons, Sr. to John Fitzsimmons, Jr.	S-3-378	1-7-1817	7a, 20p
John Fitzsimmons, Jr. to Robert Walker	------	1818	7a, 20p
Robert Walker to John Morrell	Z-3-18	3-2-1821	7a, 20p
Joseph Derrickson to John Morrell	------	?	5a
John Morrell to Samuel Walker	------	3-24-1830	?
Samuel Walker to Bernard Glatts	Q-4-526	4-3-1833	7a
Robert Walker, Admin. of B. Glatts to Rebecca Walker	U-5-234	2-4-1847	41/2a

Key

a = acres
p = perches

here as well. This indicates that Fitzsimmons' net worth nearly doubled from 1796 to 1798 (from $96 to just under $180). The construction of a house on unimproved land often greatly increases the assessed value of that land and it is likely that is the case here. Therefore, it can be tentatively concluded that Fitzsimmons erected a dwelling house sometime between 1796 and 1798.

The U.S. Census of 1800 and 1810 listed Fitzsimmons as the head of a household which contained five other people, probably his wife and children. In 1817, John Fitzsimmons, Sr. sold the 7 acre, 70 perch parcel to his son, John Fitzsimmons, Jr. for $400 (New Castle County Deed [NCCD] S-3-378). That deed made reference to two earlier transactions by which Fitzsimmons Senior had acquired the property. On June 9, 1785, Fitzsimmons had purchased a 7-acre parcel from William Addy for an undisclosed amount and on August 13, 1796, he had purchased a 70-perch parcel from the same man, again for an undisclosed amount. However, no specific deed book references were given for these transactions and William Addy was listed in neither the grantee nor the grantor indexes. Thus, the title chain could be taken no further back into the 18th century.

In 1818, John Fitzsimmons. Jr. apparently sold the property to Robert Walker (from a reference in a later NCCD Z-3-18). Walker appears in the U.S. Census of 1820, where two members of his 7-member household were listed as being employed in the category of "agriculture". At that time, none of the household are listed under the employment headings "commerce" and "manufacturing." Walker sold it to John Morrell in 1821 (NCCD Z-

3-18). Morrell was listed as a cordwainer (shoemaker), and held the property for nine years before he sold it to Samuel Walker. In 1833 the property was purchased by Bernard Glatz, also a cordwainer (NCCD Q-4-526), for $525.00 and he is listed in the 1840 census along with his wife and 4 children. Mulligan (1984) in his study of Lynn, Massachusetts shoemakers, indicates that shoemaking was a family art, and that wives, sons, and daughters all took part in the business, the children often at an early age. This does not seem to have been the case with Glatz's family. The census lists one member of the household as being engaged in manufacture and trade (presumably Mr. Glatz himself), and this may have been a difference in the industry between New England and the middle Atlantic. The Mill Creek Hundred tax assessments for the years 1837 and 1838 list Bernard Glatz as a cordwainer and shoemaker's tools and supplies are listed in his probate inventory of 1842 (Appendix I). Bernard Glatz died intestate that year and his belongings included household items, one cow, two pigs, a dearborn and harness, one bay mare, wheat in the ground, and a lot of grass. Also included in the inventory were "a Lot of Lasts, Shoemakers tools and Benches, a Lot of Leather upper and sole, a Lot of Scraps of Leather, Barrel and Vinegar, Keg and Vinegar, Two Meat Tubs, Two Tubs, Lot of Tubs". These items had a combined assessed value of $9.62 out of a total of $170.62 for all goods and chattels of his estate. There is no record of where Glatz the shoemaker sold his goods or whether he exchanged them for cash or barter or both, although Simler (1986) notes that tenant craftsmen in Chester County, Pa. were important

factors in the economy. Hazen (1837:72) offers a brief description of some of the business practices of the country shoemaker

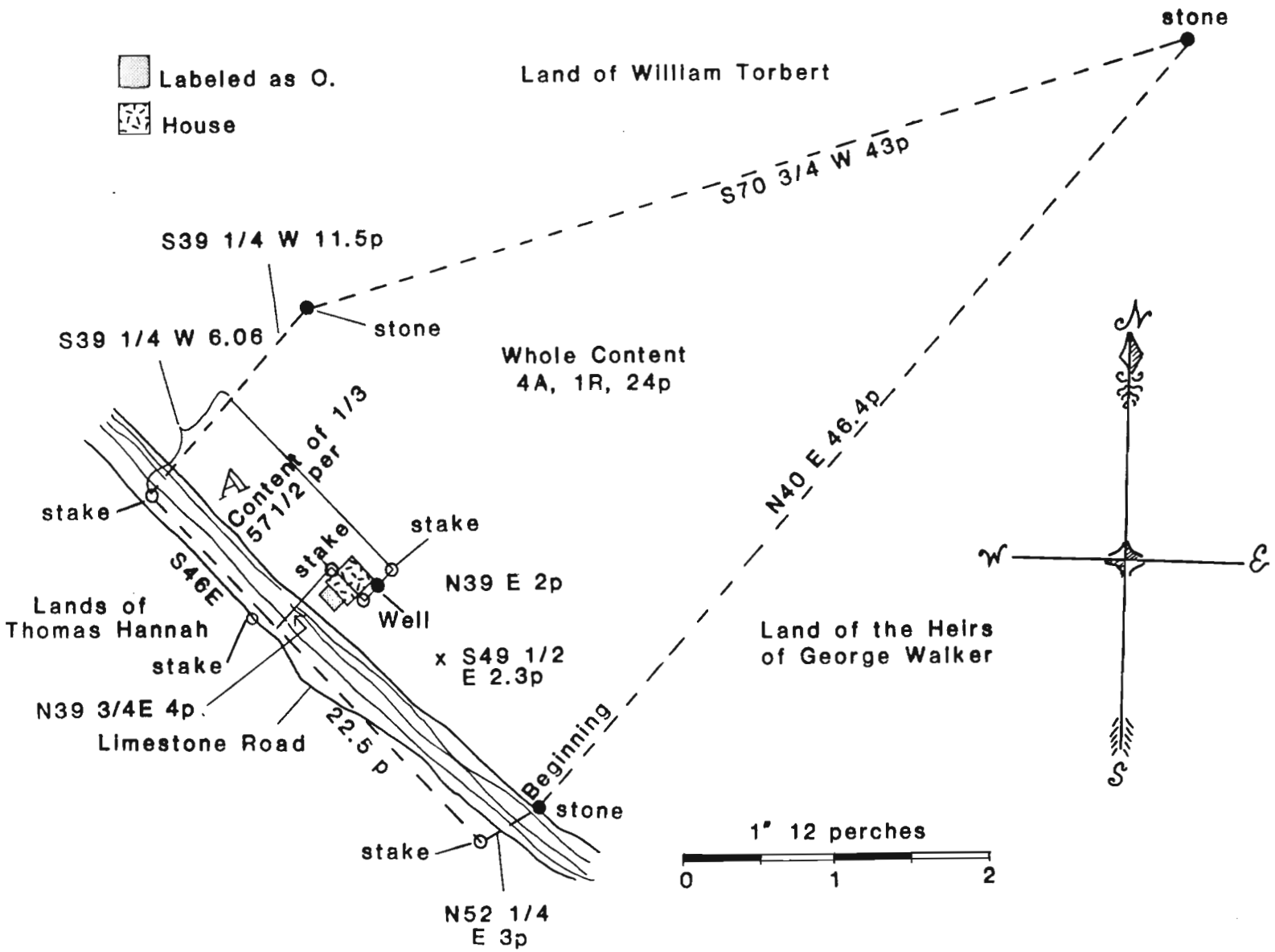
> "It is no uncommon thing in the country, for the farmers to purchase leather, and employ the shoemaker to make it up; and this is done, in most cases, on their own premises. The shoemaker employed this way, removes from house to house, changing his location whenever he has completely served a whole family in his vocation. In such cases, he is said, by the trade, to be whipping the cat. The set of tools, with which he operates, is called his kit.
>
> The shoemaker usually buys his leather from the tanner and currier; and procures his tools, tacks, and various other articles of a similar nature, at the finding stores. In some cases, the shoemaker, with little or no capital, gets his materials from the leather-cutter, who makes it a business to supply them ready cut to the proper size and shape. There are, however, but few leather-cutters in our country; but in England, this branch of trade is one of considerable importance, and is frequently connected with that of the leather-dresser".

Bernard Glatz's probate records indicate that his real estate was sold to Rebecca Walker for $350 at public auction on March 21, 1846. The auction was held at the nearby Mermaid Tavern, where Walker was the innkeeper. As part of the terms of sale, Rebecca Glatz, Bernard's widow, was given part of the dwelling to serve as her residence. She was also given one-half use of the well, and 57.5 perches of land out of the total parcel (Figure 2). Rebecca Glatz apparently did not stay in the house for very long, for her name does not appear in the 1850 Census of Delaware for Mill Creek Hundred. None of her children appear in the census lists either, so it is likely that the family had moved out of the hundred by that date.

The Walker family apparently owned the property for the remainder of the 19th century, for numerous local atlases and

FIGURE 2

Division of Bernard Glatz' Property after his Death in 1842



maps (Figures 3, 4, and 5) label the house as belonging to Rebecca Walker and/or her daughter, Rebecca Walker Brown (Rea and Price 1849, Beers 1868, and Baist 1893). The Walkers' total land holdings are given as 118 acres on Baist's (1893) Atlas, so it had apparently been incorporated into their larger holdings by that date. More information about the Walkers can be gathered from the Census of Delaware for the years 1850 through 1880, 1900, and 1910. The census of 1850 lists the 65-year-old Rebecca Walker as head of household and eleven other people contained within the household. It is likely that this list includes people living at the Mermaid Tavern, which Rebecca Walker owned and operated, and that a tenant probably a craftsman, was living at the former Glatz residence. Included in the Mermaid Tavern group were 2 carpenters and a blacksmith. The Census of 1860 lists Rebecca Walker's occupation as an innkeeper and the 40-year old Jerome Walker as a farmer. Also listed are a machinist, a carpenter, a laborer, and a student of medicine among the eleven members of the household. The remaining censuses show a dwindling household and the census for 1900 lists only the 74-year old Elizabeth Walker, her 63-year old niece Julia, and a boarder, Harry O. Brown. None of these people are listed in the 1910 Census.

According to an informant, the 81-year old Mrs. Sarah P. Evans, the house was demolished and the well filled in by her father around 1912 or 1913. Mrs. Evans, who was interviewed in 1985, had no personal recollection of the structure or any outbuildings associated with it.

FIGURE 3

Detail of Limestone Road from Rea and Price "Map of New Castle County, Delaware"(1849)

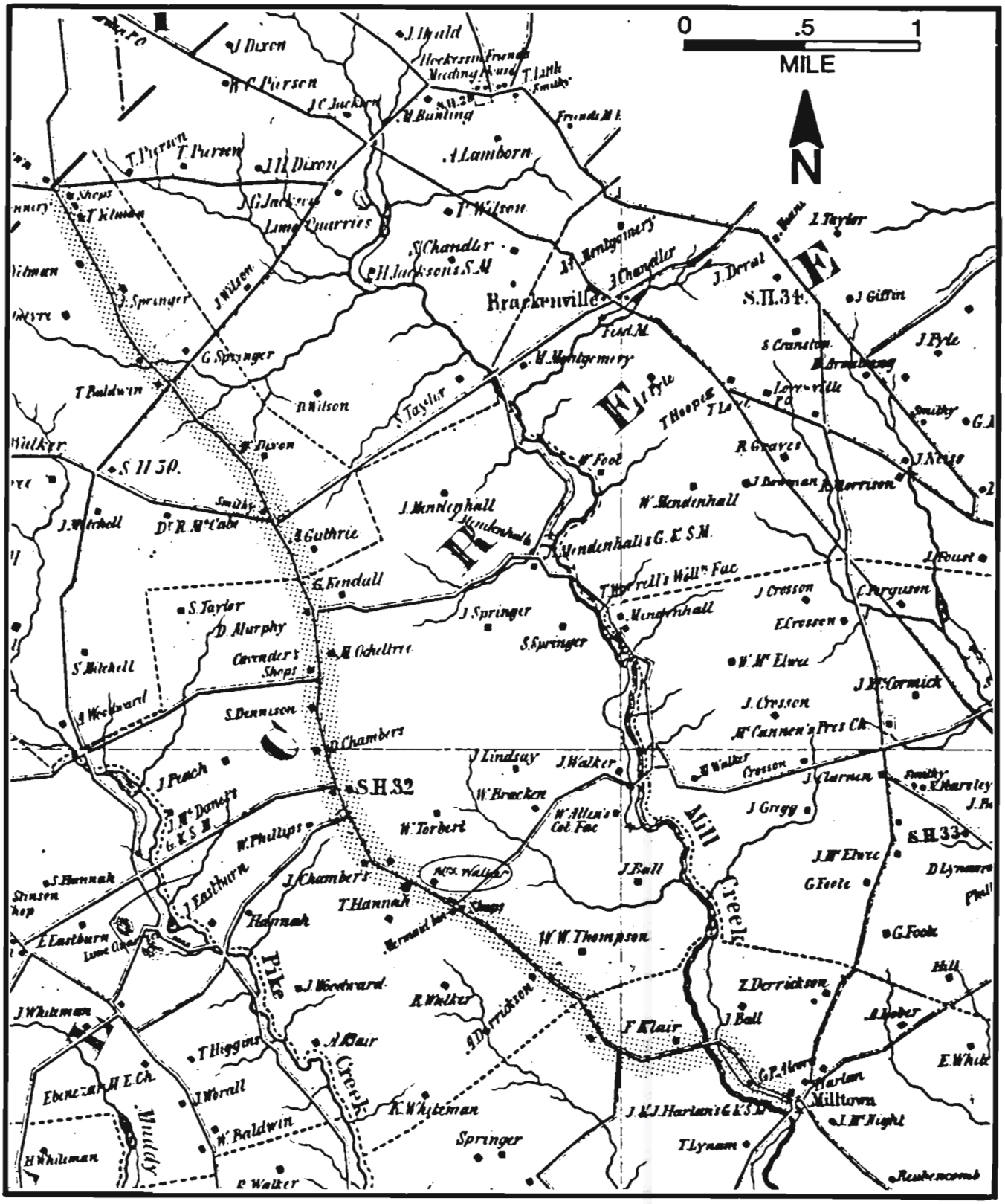


FIGURE 4

Detail of Limestone Road from D.G. Beer's "Atlas of the State of Delaware" (1868)

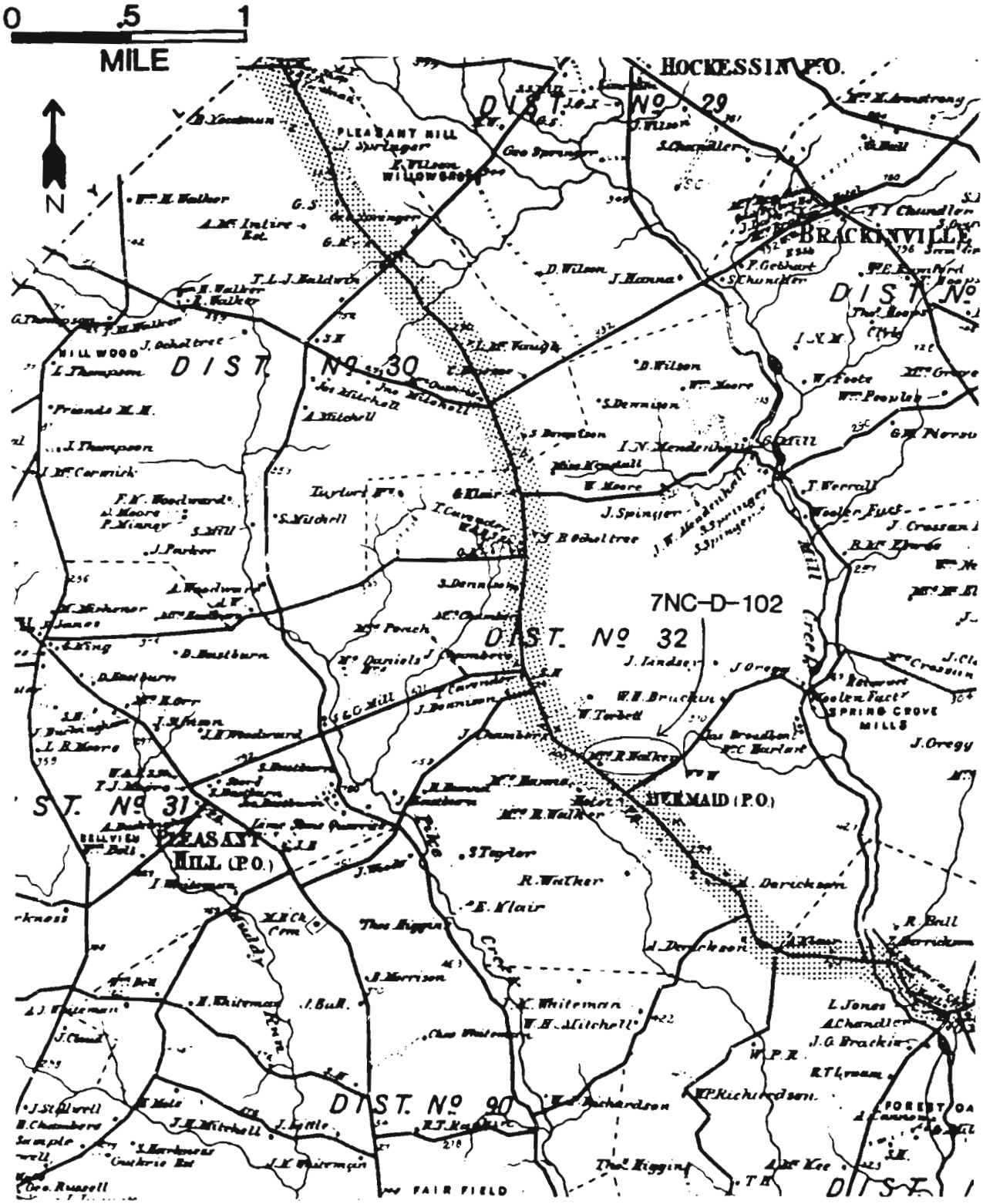
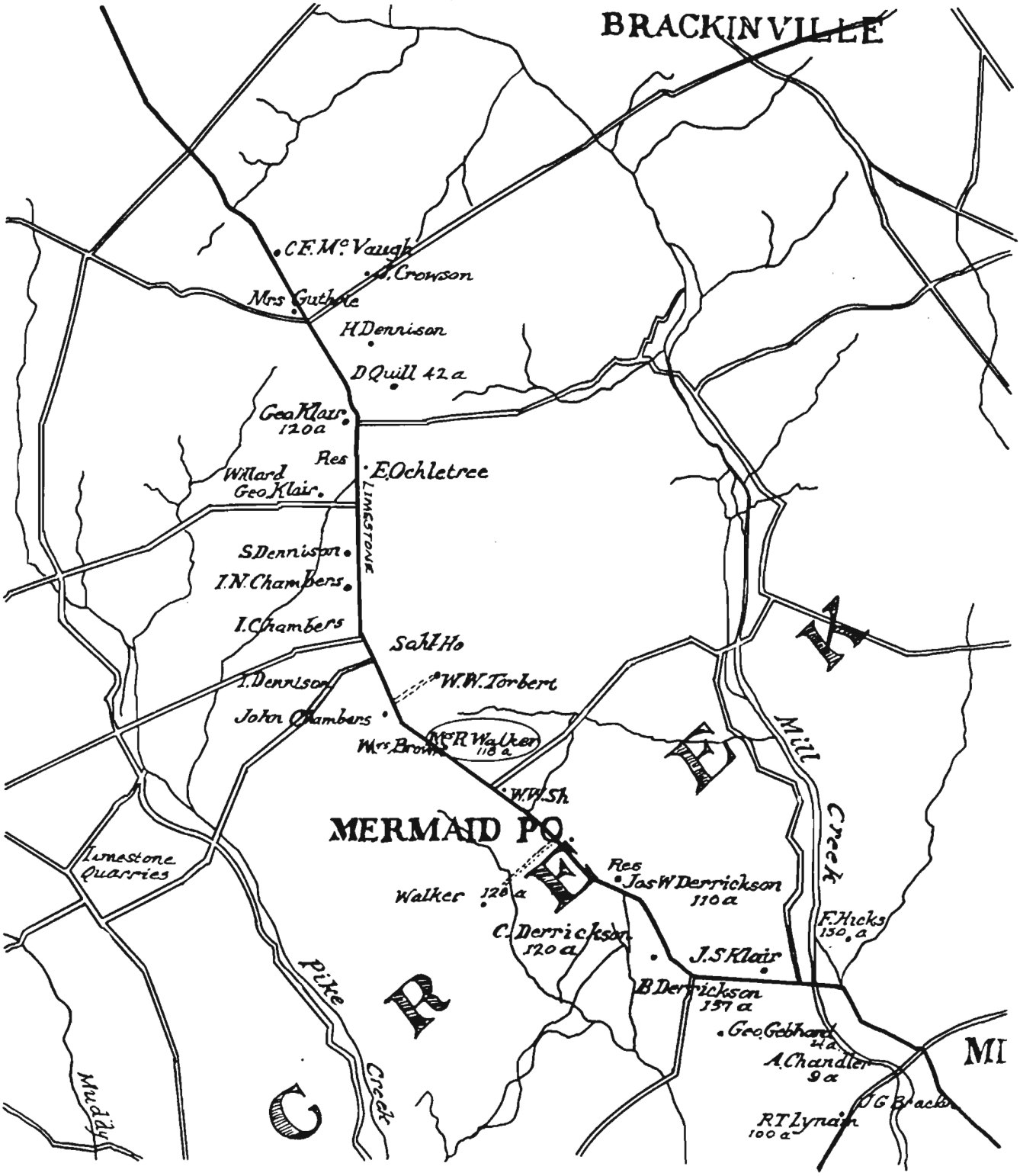


FIGURE 5

Detail of Limestone Road from G.W. Baist's "Atlas of New Castle County" (1893)



Tax assessments for the period 1785 to 1853 for Mill Creek Hundred provide perhaps the most important historic data for the earlier occupation of the property. The significant information for Glatz's property can be summarized into three major areas: 1) property values for the Hundred for the 68-year period, 2) the occupants' employment, and 3) notations on the presence of structures. Information is provided for 34 years of the 68-year period and the quantity of the data varies with each entry. Assessed valuation for each ratable is always given, and other notations were variously made for the size of the property in acres, structures on the property, and the value of real estate, livestock, and slaves owned. The assessed valuation provides a relative measure of the wealth of the inhabitants of the Hundred at any given time. Since the Glatz property size stayed consistent from 1785 to 1847, the assessed value for each successive owner through time was tabulated and impressionistically compared with other residents in the Hundred.

In almost all cases, the owner of the 7 1/2 acre parcel ranked in the bottom half of all ratables, usually about the 20th or 30th percentile. This information is valuable because when combined with other information on personal holdings, including land, livestock, slave ownership, wagons and carriages, crops, and household goods as derived archaeologically or through written records, the researchers may be able to discern what assets were most important to the individual owner, and what assets were used by the local society as measures of individual wealth and status (Main 1973; Coleman et al. 1983:212). When compared with other properties within the region that have been

analyzed in a similar fashion, patterns of socio-economic status begin to emerge.

Also notable is that none of the assessments ever mention more than one structure (the dwelling) on the property, which indicates that any space required for a stable or the storage of farm equipment or carriages would have to have been rented from a neighbor. There was a large barn associated with the Mermaid Tavern at this time (Catts et al. 1986:78) and it is probable that Glatz rented part of the barn for his needs.

Glatz's workshop or cordwainer's shop was probably associated directly with his dwelling as Mulligan (1984:238) indicates was common prior to 1850 for shoemaking families in Lynn, Massachusetts. The shoe shop, called a "ten-footer", was a structure about twelve feet square and was usually located in the yard of the cordwainer's home. Glatz's property in 1842 (Figure 2) shows a small addition on the front (Limestone Road) side of the house. This structure may represent the location of the "ten-footer".

Bernard Glatz's inventory of 1842 can be compared with the tax assessments for Mill Creek Hundred for the years 1834, 1837, and 1841. For all years he ranked in about the 30th to 50th percentile of all ratables in the Hundred. His inventory lists all of his personal property and its estimated value. The total value of his personal property (excluding real estate) is $170.62. Nearly 1/3 of this is contained in "one bay mare, saddle and briddle [sic]" worth $50.00. Other more valuable items include one cow ($12.00), three beds, bedsteads and bedding

worth a combined $22.00, a dearborn ($6.00), two pigs ($5.00), and a bureau and contents ($6.00). The average value of all items listed in the inventory is $3.00 per item, although 35 of the 57 items have a value of $1.25 or less. It is interesting to note that various kitchen items, including ceramics, are poorly described and valued quite low. "A lot of Kitchen Ware" is valued at $1.00, "A lot of Tin Ware in Kitchen" at $0.25, and an entire "Contents of Cupboard" at $5.00.

The inventory is implicitly organized by interior house room and exterior belongings, which were probably kept in a rented barn, shed, or stable on nearby property. No outbuildings were ever listed in any of the tax assessments for the property, so it is likely that none existed. Three interior rooms and a garret, or attic room, are listed in the inventory, and the contents of each room give clues to the activities carried on within it. In Appendix I, items 1 to 9 are apparently contained in Room #1, which is probably a bedroom. Items 10-28 were located in Room #2 and include articles found in a kitchen, a living room, a nursery, and a bedroom. It may have been the largest room in the house and may have functioned as a place where all four specialized activities were carried out. Room #3 contained bedding, a drawer of clothes, carpeting, a cardtable and shoemaker's tools and equipment, and apparently functioned as a workshop and as a bedroom, while the garret contained only bedding and bedclothes and probably functioned solely as a bedroom.

EXCAVATION RESULTS

The goal of the excavation was to locate and excavate as many features as possible in a week's time, which was all of the time that could be allotted by the developer. Indeed, while the first features were being excavated, additional features were found by the bulldozers in the vicinity of the house site, which further complicated the tasks of the excavators. A total of 37 features were eventually identified during the excavation. Several of these were later found to be non-cultural. The features were sectioned and excavated by hand and the feature fill was sifted through 1/4" screen. Artifacts were bagged by stratigraphic cultural level where possible. The artifact inventory for these features is included in Appendix II.

Since the plowzone at the Glatz house site had already been stripped by the developer before it could be subjected to test excavations, and because the developer would allow only a few days to conduct excavations, the goals were to excavate as many of the features as time permitted and record feature dimensions, feature fill, and the distribution of the features at the site. With this plan, it was felt that the maximum amount of critical data could be gathered in the short amount of excavation time allotted for the site.

Thirty-seven features were initially defined after the top of the subsoil had been shovel-troweled flat and these are summarized in Table 2. They included the house foundation, a well, several refuse pits, some postmolds, a dripline, and 13 features which were concluded to be non-cultural (rodent disturbances, tree roots, or plow scars). These are plotted on

TABLE 2

GLATZ SITE FEATURES

No.	Dimensions in Feet	Cultural Designation
1.	-	Postmold
2.	6.0 x 6.0	Bottle dump
3.	-	Builder's Trench
4.	3.0 x 5.5 x 1.2	Refuse pit
5.	-	Plow scar
6.	-	Plow scar
7.	5.0 x 8.0	Refuse pit
8.	0.8 diameter	Tree root
9.	1.6 deep	Refuse pit
10.	0.2 deep	Plow scar
11.	1.1 x 1.2 x.0.7	Postmold
12.	1.2 x 1.3 x 0.7	Postmold
13.	1.2 x 1.1 x 0.4	Refuse pit
14.	3.0 long, 0.6 deep	Refuse pit
15.	1.0 x 1.2	Postmold
16.	1.3 long	Plow scar
17.	1.3 long	Rodent burrow
18.	1.6 long, 0.6 deep	Postmold
19.	1.5 x 0.7	Postmold
20.	1.4 x 1.2 x 1.0	Postmold
21.	3.2 diameter	Well
22.	4.0 diameter	Refuse Pit
23.	3.0 diameter	Refuse pit
24.	-	Rodent Burrow
25.	-	Plow scar
26.	6.0 x 6.0 x 0.5	Refuse pit
27.	5.0 x 5.0 x 0.6	Refuse pit
28.	3.0 x 4.0 x 0.6	Refuse pit
29.	3.1 x 2.5 x 1.6	Refuse pit
30.	-	Rodent burrow
31.	1.6 x 1.4 x 1.0	Postmold
32.	1.0 x 2.0 x 0.9	Refuse pit
33.	1.1 x 1.3 x 0.9	Refuse pit
34.	-	Plowscar
35.	-	Plowscar
36.	23.0 long	Dripline
37.	31.0 x at least 43.0	House Foundation

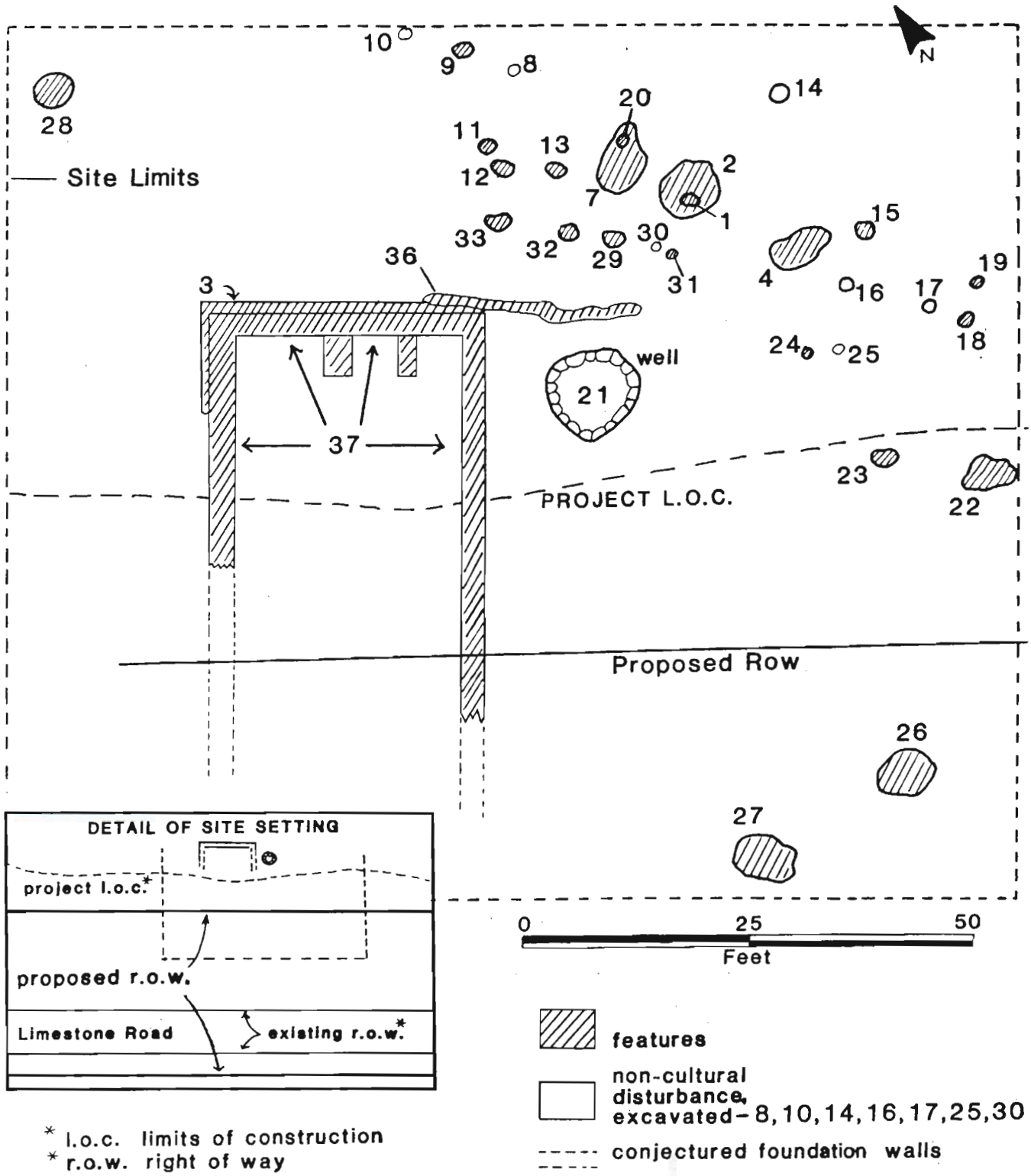
Figure 6, the map of the excavated Glatz property. What follows is a summary description of the more significant of the remaining 24 features.

The stone house foundation (Feature 37) was disturbed by plowing and grading operations; however, it was sufficiently intact so that its partial dimensions could be obtained (Plate 2). The long axis ran perpendicular to Limestone Road, measured at least 43 feet in length, and was represented by truncated, partially excavated north and south foundation walls which had been obliterated on their western ends. The other axis measured 31 feet and only the east wall (presumed gable end) remained intact. The foundation consisted of local dressed schist rock mortared in place in a shallow V-like trench and undisturbed sections averaged 32 inches in width (Figure 7). Also found along the east foundation wall were two butted chimney supports constructed in the same manner as the foundation, suggesting it was built at the same time. These measured 8 feet apart, center-to-center and extended out 4.5 feet from the east foundation wall. They were not centered in the gable end, but were offset approximately 3 feet to the south. A similar arrangement was also found at the Grant tenancy house on Lancaster Pike (Taylor et al. 1987) about 5 miles east of the Glatz site.

Several 1x1 meter test units placed in the vicinity of the east foundation wall revealed two other features and a concentration of refuse inside the foundation. The interior artifacts may have been part of a cellar but time constraints did not allow for complete definition of the refuse concentration. Nearly 1000 artifacts were recovered from Test Unit 2C, most of

FIGURE 6

Glatz Site Map



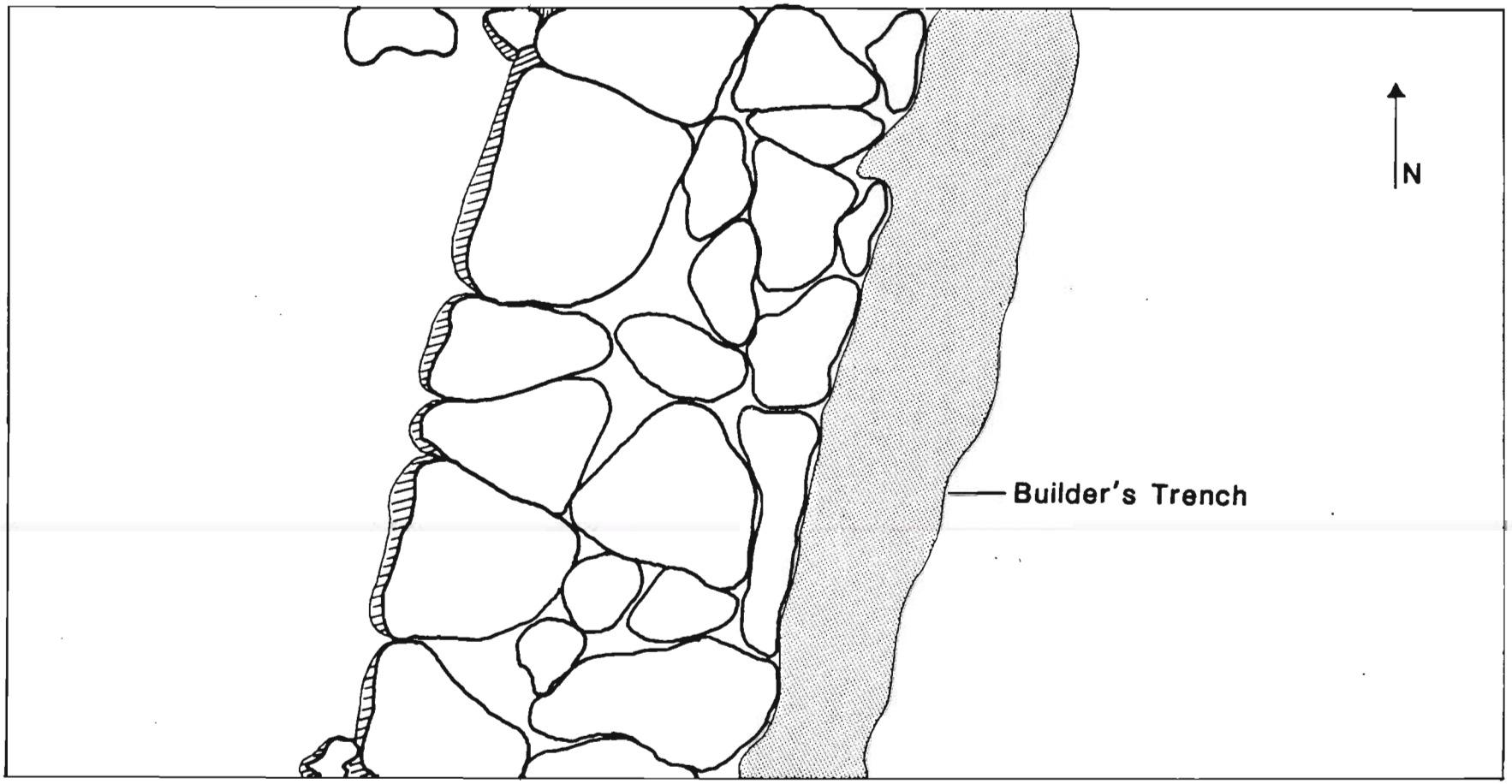
* l.o.c. limits of construction
* r.o.w. right of way

PLATE 2

Remains of the Stone House Foundation

FIGURE 7

Glatz House Foundation (Feature 37) and Builder's Trench (Feature 3)



which were 19th century redware sherds. However, the presence of 2 sherds of white-salt glazed stoneware (1725-1775) and one sherd of tin-glazed earthenware (1600-1800) represents the earlier occupation of the late 18th and early 19th centuries.

The other two features associated with the foundation were a dripline (Feature 36) and a builder's trench (Feature 3), both located on the east side. The dripline measured 23 feet long and 15 feet of it extended away from the southeast corner of the house. It is possible that a shed-roofed portico extended out to cover the well. Portions of the builder's trench were excavated along the east and north side of the foundation and produced a total of just one redware sherd and two fragments of clear bottle glass. None of these artifacts are helpful in providing a more accurate construction date for the house.

Features 1, 11, 12, 15, 18, 19, 20, and 31 were designated as postholes or postmolds. No clear postmolds were noted in definite postholes, so the designations are speculative in some cases. None of these features depict any clear line and can only be considered fragments of fencelines or pole racks of undetermined function. Most of these features contained low numbers of redware, whiteware, nails, and bottle glass, although Feature 12 contained 218 artifacts, 162 of which were lamp chimney glass. These probably represent one or two individual chimneys. Feature 20 contained a large number of artifacts, but it was intrusive into Feature 7, a large trash pit. This probably accounts for the quantity of artifacts in Feature 20.

The remaining 12 features uncovered during the salvage operations (2, 4, 7, 13, 22, 23, 26-29, 32, and 33) are all

classified as refuse pits. This interpretation was based upon the broad, irregular dimensions of the feature boundaries, the large numbers of artifacts contained within them, and their depth below the surface. The feature dimensions are given in Table 2. Feature 2 appears to be a bottle dump, as the majority of the artifacts found were beverage and pharmaceutical bottle fragments dating from about 1860 to 1880. Feature 4 contained mostly ceramics which included gray stoneware (mean date of manufacture of 1860), undecorated whiteware (mean date of manufacture - 1860), yellow and blue-decorated annular whiteware (mean date of manufacture - 1845), and green and red hand-painted whiteware (mean date of manufacture - 1865).

Feature 7, which measured 5' X 8' and contained 450 artifacts, most of which were 19th century ceramics and bottle glass. One of the bottle bases contained a snap pontil scar indicating a manufacture date of 1810-1870. The wide range of materials recovered included window glass, brick, mammal rib bones (with saw marks evident), 13 oyster shell fragments, brass clothing hooks, plaster and mortar chunks, cut nails, copper and iron metal fragments, and kaolin pipe stem and bowl fragments. It appears to be a general refuse pit, possibly of a secondary nature.

Features 22 and 23 were refuse pits found about 60' south of the house. Each was characterized by an organic stain containing 150 and 79 artifacts, respectively. Feature 22 contained whiteware, ironstone, and redware representing 19 individual vessels, and various clear and colored bottle glass fragments

representing 23 individual bottles. Feature 23 contained mostly similar materials representing 19 ceramic vessels and five bottles. Two sherds of blue shell-edge pearlware (mean date 1815) and one sherd of undecorated creamware (1791) were also found in Feature 23.

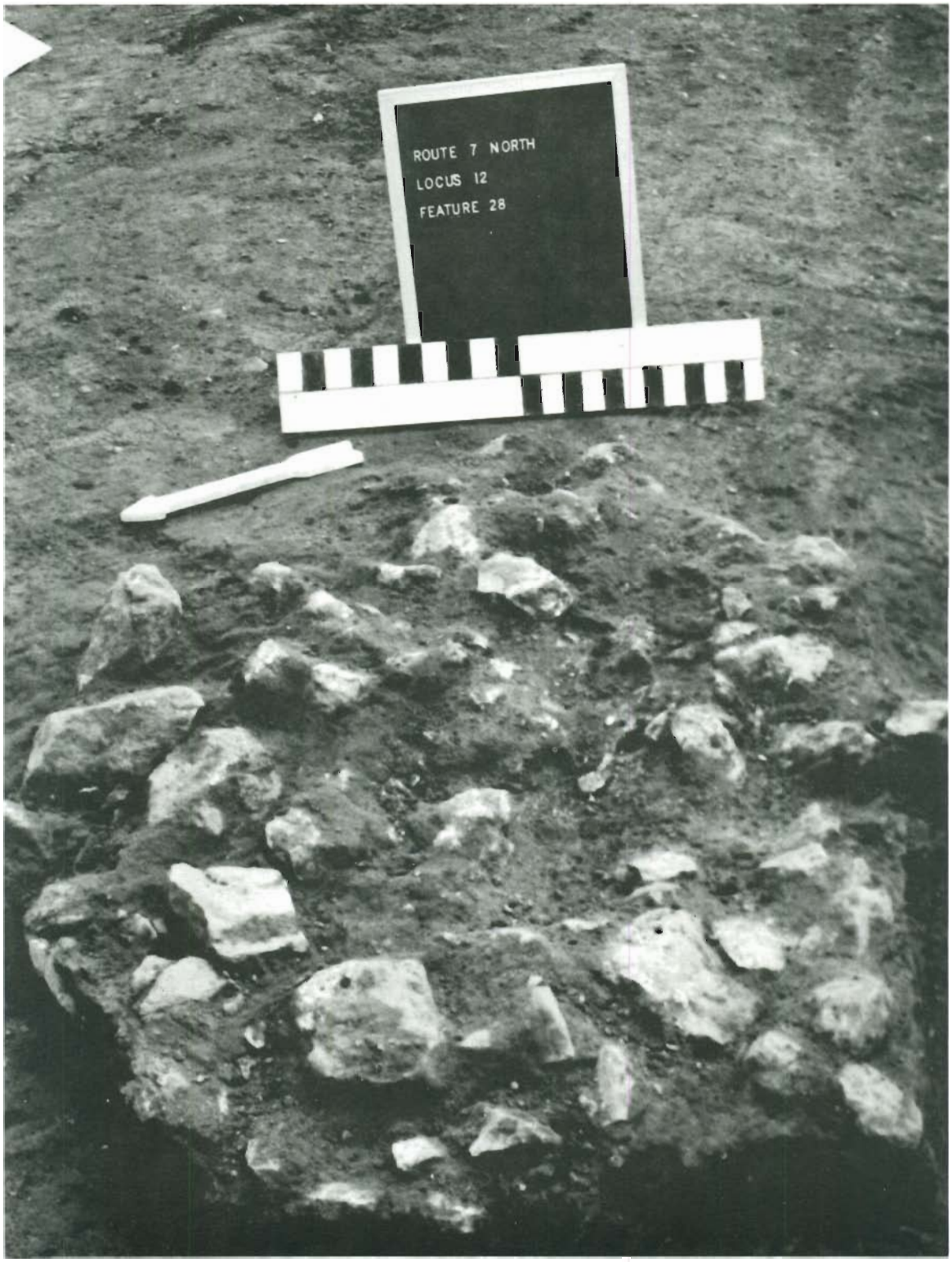
Features 26 through 29 were refuse pits located at diverse locations around the site. Features 26 and 27 were located to the southwest of the foundation and several feet lower in elevation. Both contained large amounts of 19th century ceramics (49 individual fragments in both features) and bottle glass (11 individual fragments in both features). Kaolin pipe stem and bowl fragments, pressed glass tableware (4 sherds), window glass, shoe or belt buckle fragments, a glass button, and nail fragments were also recovered.

Feature 28 was located northeast of the house foundation and contained artifacts very similar to Features 26 and 27. It also contained a cluster of broken cobbles in a rough circle about 3 1/2 feet in diameter, with some of the artifacts above the rocks, some between them, and some just beneath them (Plate 3). Sterile subsoil lay directly beneath the rocks. It does not appear to be a hearth or animal butchering area, as no charcoal or charred animal remains were found.

Feature 29 contained over 300 artifacts, about one-fourth of which were window glass fragments. Nineteenth century ceramics and bottle glass were also common and two of the latter were diagnostic: a one quart Taylor figural flask dating to about 1846 and a small apothecary bottle labeled "Ed. McInall/Druggist/Wilmin., De". McInall operated a drugstore at

PLATE 3

Feature 28, Prior to Excavation



three locations on lower Market Street from 1845-1870 (Green n.d.).

Features 32 and 33 are not large, containing only about 1 to 2 cubic feet of soil. However, both contained too many artifacts to be postmolds, so they are classified as truncated refuse pits. For both features, most artifacts were 19th century redware and whiteware.

Feature 21, the stone-lined well on the south side of the house, first appeared as a 6' diameter stain (Plate 4). After 1.5' of excavation, the stain was narrowed to 3.2' and the intact well-lining of dressed stones became evident. The well was excavated to a depth of 4.2' below surface before time constraints prevented further excavation (Figure 8). The excavated portion of the well produced over 1000 artifacts, including 19th century redware, many different forms of whiteware, including 1830s and 1840s styles, nails, screws, a black glass 2-hole button, leather scraps, brick fragments, and oyster shells. Three of the artifacts provided more specific identification. A soda or beer bottle contained the embossed letters "Jos. H. Merkel/Wilmington, Del.", a clear partial pharmaceutical bottle contained the lettering "...NTH ST. PHARMACY/...R 7TH & JACKSON STS./...INGTON, DEL.", and a copper button contained the engraved lettering "Patented FEB. 7, 1902". Joseph Merkel is listed in the Wilmington City Directories as a bottler at 103 Harrison St. from 1895 to 1898 and the Seventh Street Pharmacy, on the corner of 7th and Jackson, is listed for the year 1897 only. The long temporal span of the artifacts recovered from this small amount of well fill suggests that the

PLATE 4

Feature 21, Top of the Stone Lined Well Showing Fill Lens above the Shaft

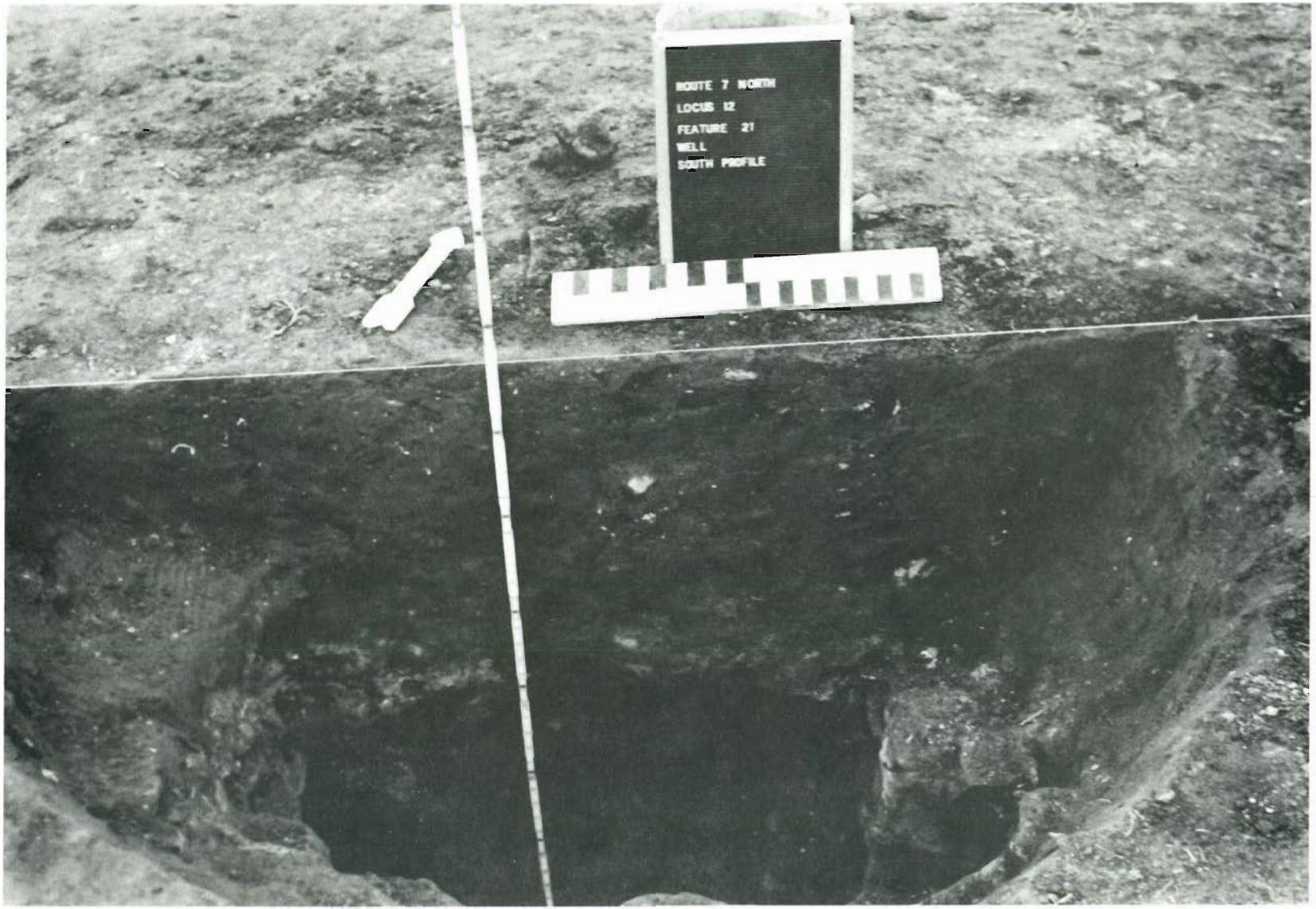
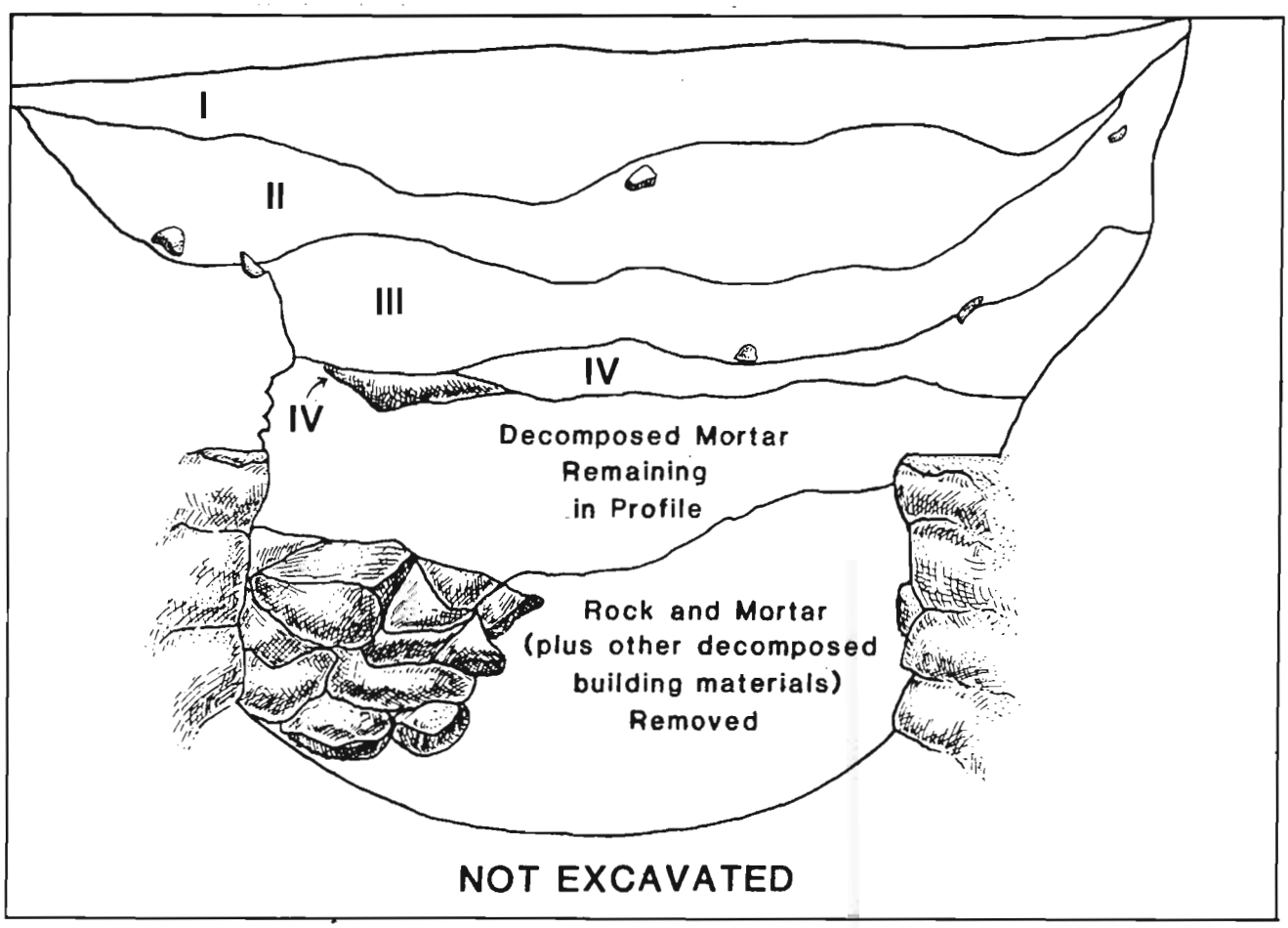
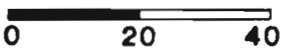


FIGURE 8

Profile of Glatz House Well Excavation





Level I – light brown silty loam, very low clay content

Level II – light brown/orange brown silty loam; slightly higher clay content than in level I

Level III– slightly darker brown silty loam with some orange clay mottling

Level IV– Light brown/orange brown silty loam; higher clay content than level II

fill is a secondary deposit which probably dates to the demolition of the structure early in this century.

Several test units were placed just inside the foundation walls and collectively they produced a wide variety of 19th century artifacts. It is likely that the 800-plus artifacts recovered came from a cellar, although time constraints did not permit the full delineation of a feature or features within the foundation walls. The grading of the site had truncated and blurred the features and made it difficult for the salvage excavators to determine the feature limits.

SUMMARY AND CONCLUSIONS

The interpretation of the features at the Glatz site involved an assessment of the size and shape of the feature, the artifact content, and the spatial position of each feature in relation to the house and to each other. As noted above, functions were ascribed to several features (bottle dump, posthole, general refuse, etc.) and are summarized in Table 2. In most cases, this function was based on the size and shape of the feature and on the quantity of artifacts recovered rather than on the types of artifacts found. The artifacts varied in number from one feature to another but not in type. The overwhelming majority of all artifacts recovered from the features were undifferentiated mid-19th century to early 20th century domestic ceramic and bottle glass fragments, and functional attributes could not be assigned for each feature based upon the recovered artifacts. In fact, it should be pointed out that the majority of artifacts from the site probably

date to the Walker's period of ownership of 1847 to 1912 and that few artifacts clearly date to the Glatz occupation or earlier.

The truncation of the western end of the stone foundation makes it difficult to accurately determine the dimensions of the dwelling, and this problem also prevented the archaeological examination of the possible "ten-footer" (Mulligan 1984), or shoe maker's workshop shown in the 1842 land plat (Figure 2) that may have been attached to that end of the structure. Two of the features identified (Nos. 26 and 27) may be interpreted as being trash pits associated with a shoe shop. Features 26 and 27 both contained shoe buckle fragments, and their location to the southwest of the foundation supports the interpreted location of the workshop on the west end of the dwelling. Feature 28 may have been utilized in the boiling or preparation of shoe leather, a common occurrence on shoe makers' sites (Mulligan 1984).

Numerous middle to late nineteenth century trash pits were located within 20 to 30 feet of the dwelling at this site (Figure 6), which is much closer than those of the same time period found at the Ferguson farmstead in Ogletown, Del. (Coleman et al. 1983:90) or at the Wilson-Slack complex outside Newark, Del. (Coleman et al. 1985:75). At these sites, refuse pits are generally two to three times as distant from the dwelling. The trash deposition pattern at the Glatz site is more typical of sites dating to the 18th and early 19th centuries rather than for the mid-19th century and later. However, this conclusion is admittedly suspect because it is probable that not all of the trash pits were excavated at this site and the data are incomplete.

While the tax assessment records demonstrated that the site was occupied by 1798, practically all of the temporally identifiable artifacts at this site postdate 1830 (primarily ceramics and bottle glass). Creamware (1762-1825) and pearlware (1780-1830), which should have been quite common, are very rare and three explanations for this are possible. (1) The earlier owners simply did not possess much creamware and pearlware. Considering that they were relatively inexpensive and affordable for nearly everyone during the years 1798-1830, this explanation is unlikely. (2) It could have been that on this site creamware and pearlware were little used ceramic types and thus infrequently broken. The owners may have owned sets of these ceramic types, but they may have been used only infrequently, perhaps on special occasions. Inexpensive red earthenwares, tin, and wooden vessels were perhaps used every day, and the redware, which is very common on the site, would have been broken much more frequently and thus discarded in greater numbers. Neither tin nor wood tablewares would likely be recovered archaeologically, and in fact none were. The former are very durable and would have been remelted into other objects by their owners after their lives as table items were exhausted. The latter would not survive in the ground unless contained in an anaerobic environment. (3) It could be that the refuse pits containing these earlier ceramics were not located during the salvage operations. This last explanation is probably the most likely.

Mean ceramic dates [MCD] were calculated for each cultural feature and for the entire site and are presented in Table 3. In most cases, the MCD was based upon large quantities of 19th century red earthenware and whiteware. The year 1785 was used as the mean ceramic date for trailed slip-decorated red earthenware and the year 1860 for all other red earthenwares. Not surprisingly, the calculated dates most often fell into the 1850s and 1860s. Notable exceptions were Features 3, 27, 31, 34, and 35, which yielded dates from 1785 to 1840. However, in these cases, the sample numbered 10 sherds or less and the dates are considered unreliable.

TABLE 3

MEAN CERAMIC DATES FOR FEATURES FROM THE GLATZ SITE

Feature	Ceramic Count	MCD
2	244	1854
3	4	1838.8
4	243	1857.5
7	141	1857
11	3	1860
12	6	1856.7
13	6	1855
14	9	1860.6
15	11	1855
18	1	1860
19	6	1860
21	427	1858.7
22	48	1859.7
23	33	1855.2
26	159	1856.7
27	9	1798.1
28	36	1858.5
29	50	1852.8
31	10	1828.5
32	22	1841.8
33	11	1855.9
34 & 35	5	1840
36	29	1856.3
Gen. Surface	231	1852.8
Total Site	1,744	1855.7

The MCD for all ceramics recovered from the site is 1855.7. If 1798 and 1912 are taken as the beginning and end dates of occupation of the site, then the historically documented mean date of occupation is 1855, which agrees very nicely with the MCD. However, the MCD is probably skewed upward due to the absence of pearlware and creamware. Because the site was only partially excavated and the artifact recovery was not systematic across the entire site (due to previous heavy mechanical disturbance and the salvage nature of the archaeological operations), the close agreement of the MCD and the historically documented date is probably more fortuitous than significant.

A comparison between Bernard Glatz's activities as a cordwainer and the economic practices of another small rural business, the Wilson-Slack Agricultural Implement Works (Coleman et al. 1985) serves to bring out several points about the significance of rural artisans and craftsmen in the local demography and economy. Alexander Wilson and his son John T. Wilson operated a wheelwright, blacksmith, and gristmilling operation from the mid-19th century to the 1920s at a location about two miles southeast of Newark, Delaware. Although the site is now completely destroyed, archaeology and archival documentation provided valuable insights into the Wilson business and its place in the economy of northern Delaware. The Wilsons emphasized two markets for their products: (1) the urban areas of Newark and Wilmington and (2) the farmers and other residents who lived close to the Wilson Complex. This is similar to the market pattern of farm products observed by Manning for the Inner Coastal Plain of New Jersey during the mid and late 19th century

(Manning 1984:49). In contrast, the cordwainers at the Glatz site, John Morrell (1821-1830) and Bernard Glatz (1833-1842), probably served only a local market, since their manufacturing capabilities probably were far more limited than at the Wilson-Slack Complex. This is reflected in the tax assessments for the two sites in the 1840s. John R. Hill, the blacksmith who owned the Wilson site in 1845, was assessed for several buildings and a total valuation of $1,056. In 1841, Bernard Glatz was assessed for just one building and a total valuation of $363. In sum, cordwainers Morell and Glatz provided a personal service to a local group of residents, while the Wilson-Slack owners provided a commercial community service as well as a manufactured product which could be distributed on a wider basis.

A comparison was also made between Bernard Glatz' inventory of 1842 and those of William Hawthorn of Stanton, whose estate was inventoried in 1840 (Coleman et al. 1985: Appendix VI); John Reed of Ogletown, whose belongings were sold at auction on March 22, 1833 (Coleman et al. 1983: Appendix 7); and Nicholas Lahuray of Ogletown, whose inventory was taken in 1837 (Coleman n.d.). These last three were selected because they were roughly contemporaneous with Glatz' inventory.

There is variation in the values of the personal property: Glatz was valued at $170.62, Reed at $533.50, Hawthorn at $1,357.90, and Lahuray at $654.49. Their occupations were also different: Glatz was a cordwainer, Reed a tenant farmer, Hawthorn a landed farmer, and Lahuray was both a farmer and watchmaker. It is recognized that the materials in the inventory exclude

forms of wealth like landholdings, bank accounts, mortgages held, and housing, and although there was no means to control for variables like numbers of persons in the household, quality of article, condition of article at time of appraisal, and market fluctuations, a comparison was made between items commonly named on all four lists (Table 4). William Hawthorn was clearly the wealthiest man of the four, which was expressed not only in the quality of items possessed, but in their quantity as well. However, it should be pointed out that this is apparent from only certain items when all four inventories are compared.

TABLE 4

VALUES OF COMMON ITEMS IN THE INVENTORIES OF BERNARD GLATZ AND THREE CONTEMPORARIES FROM THE SECOND QUARTER OF THE NINETEENTH CENTURY

Item	Glatz 1842	Reed 183?	Hawthorn 1840	Lahuray 1837
Bed #1	$11.00	7.75	25.00	14.50
Bed #2	6.00	1.00	18.00	12.00
Bed #3	5.00	1.00	10.00	3.00
Bed #4	1.25	1.75	2.75	9.25
Bed #5	-	.80	-	7.00
Bed #6	-	.60	-	-
Kit. pipe & stove	3.00	4.50	3.00	2.00
Kit and iron shovel & tongs	1.50	1.26	3.50(2)*	1.00
Windsor chairs	-	6.09(19)	6.50(10)	-
Spinning wheels	-	.30	1.50("several")	-
Looking glass	.25	1.20(2)	.75	7.75(3)
Clock or watch	5.00	10.00	6.00	6.00(2)
Riding carriage	6.50	10.00	115.00(2)	-
Horses	45.00(1)	10.00(1)	155.00(4)	100.00(3)
Cattle	12.00(1)	13.81(1)	200.00(20)	98.00(13)
Swine	5.00(2)	-	28.50(8)	6.00(2)
Saddle	3.00	5.00	-	-
Linen sheets	-	3.09(9)	4.50(3)	-
Wash stand	.37	.80	3.00	.37
Card table	.75	5.50(2)	-	-

*number in parentheses represents multiple items

Utilitarian items like the kitchen stove, kitchen and irons, spinning wheels, and clocks and watches plus individual head of livestock have similar values on all four lists. Hawthorn owned much more livestock than the others and thus his total wealth in livestock is much greater.

From the compared items in the inventory, three things stand out as relative indicators of wealth: the value in beds and bedding, the value of riding carriages, and the quantity of livestock owned. Hawthorn has far more mahogany furniture, which may in part explain the higher assessed values for many of his furniture items, including the bedsteads. He owned two riding carriages worth a combined value of $115.00, which accounted for 8.5% of the total value of the inventory. Reed owned one carriage worth $10.00 (1.8% of total value), Glatz one for $6.50 (3.8% of total value), and there was no listing for Lahuray. Hawthorn apparently placed high value on the display of his wealth through the purchase of fine carriages. Finally, Hawthorn owned 32 head of livestock as against 18 for Lahuray, 4 for Glatz, and 2 for Reed. The value per head of livestock is similar but the greater quantity owned constituted a form of wealth for Hawthorn and Lahuray.

The inferences drawn above from the inventory comparison are not meant to demonstrate that wealthier people own nicer things. Rather, it is intended to show that there is selectivity in which of the personal items will be used for the display of wealth in both interior settings (bedding and other furniture) and exterior settings (carriages) for the 1830s in northern New Castle County, Delaware. Conversely, the apparent value of other more

utilitarian items reflect no selectivity as display pieces on the part of the owners.

The archival documentation and archaeological investigations at the Bernard Glatz site have combined to suggest some interesting patterns in the analysis of small 19th century rural dwellings. Because the site was largely destroyed by the time excavations began, conclusions based upon archaeological evidence are somewhat limited. However, when the archaeological material is combined with a rich archival background, several important questions are raised. Although it is primarily a middle to late 19th century site, the pattern of refuse pits is more similar to the 18th century pattern, where trash deposition occurs close to the house, usually in side or rear yards. Nineteenth and twentieth century trash deposition patterns usually result in the refuse being thrown several hundred feet from the dwelling house. The disposal pattern seen at the Glatz site may be related to the small size of the land holding. Artifacts are common for the period 1830 to 1910, but relatively rare for the period 1798 to 1830, and the cause for this is unknown. Finally, it appears that the wealth of the families who lived here, if Bernard Glatz's inventory can be taken as typical, suggests that during this period, personal wealth was contained in such things as real estate, livestock, interior furniture, carriages, and farm implements, items which Glatz possessed in substandard form or not at all. Other items, such as ceramics, may not be especially useful for determining socio-economic status, even though these other items are often studied for these purposes by historic

archaeologists.

On a local scale, the Glatz property can be viewed as part of the single street village that was growing up around Mermaid Tavern and its attendent structures. The Glatz parcel was apparently never intended to be large or soley devoted to agriculture; rather it was meant from the beginning to be a craftsman's or artisan's landholding. Several other small, non-agricultural landholdings were noted for the area between Mermaid Tavern and Curtis Mill Road for the same time period by Catts, Schaffer and Custer (1986:66). These lots were also owned by craftsmen, or were commercial-oriented and included cordwainers, a clockmaker, a doctor, a mason and a cabinet maker (Table 5). The demise of the Glatz property, with Bernard Glatz's death in 1842, coincides closely with the decline of Limestone Road as a major transportation route in general, and with the Mermaid Tavern intersection in particular. From a regional perspective, the incorporation of the Glatz landholding into the larger Walker property is representative of the massive reworking of Delaware's built environment in the first half of the 19th century. Herman

TABLE 5

OCCUPATIONS OF LOT OWNERS BETWEEN MERMAID TAVERN AND PAPER MILL ROAD

Date	Name	Occupation	Deed Reference
1811	Simon Hadley	joiner/cabinetmaker	K-3-77
1817	Joseph H. Jackson	clockmaker	T-3-279
1821	John Morrell	cordwainer	Z-3-18
1830	Thomas Lupton	spinner & weaver	M-4-259
1831	William Wood	mason	N-4-112
1853	John McCabe	doctor	M-6-161

(1984:5), Catts et al. (1987), and Coleman et al. (1987) have noted a similar re-shaping in St. Georges Hundred and White Clay Creek Hundred.

During the first decades of the 19th century, population growth, over use of arable land, and poor farming practices caused major social and economic changes in New Castle County's man-made environment. Many farmers and landholders abandoned the land, and by the middle of the 19th century, fewer, large landholders emerged as the owners of the land. The reworking of the landscape effected most of the built environment of St. Georges Hundred (Herman 1984:5), and in the vicinity of Christiana Bridge and Ogletown, (Catts et al. 1987; Coleman et al. 1987) involved the changing of long-established property-lines and fences, tenant dwellings and homes, and road closings and relocations. The Glatz property is thus a small example of these social and economic changes on both local and regional scales.

REFERENCES CITED

Bausman, R. O.
1933 The Economic and Historic Background of Farm Tenancy in Delaware. **Journal of Farm Economics** 15:164-167.

Braun, E. L.
1967 **Deciduous Forests of Eastern North America.** Hafner, New York.

Catts, Wade P., Lauralee Rappleye-Marsett, Jay F. Custer, Kevin Cunningham, and Jay Hodny
1987 **Interim Report on Phase I and II Archaeological Investigations of the Route 7 South Corridor, Route 13 to I-95, New Castle County, Delaware.** Delaware Department of Archaeology Series (in press). Dover, Delaware.

Catts, Wade P.,Mark Shaffer and Jay F. Custer
1986 **Phase I & II Archaeological Investigations of the Route 7 North Corridor, Milltown to the Pennsylvania State Line, New Castle County, Delaware.** Delaware Department of Transportation Archaeological Series 47. Dover, Delaware.

Coleman, Ellis C.
n.d. Inventory of Nicholas Lahuray, 1837. Manuscript on file, University of Delaware Center for Archaeological Research, Newark.

Coleman, Ellis C., Kevin W. Cunningham, Jim O'Connor, Wade P. Catts, and Jay F. Custer
1984 **Phase III Data Recovery Excavations of the William M. Hawthorn Site, 7NC-E-46, New Churchman's Road Christiana, New Castle County, Delaware.** Delaware Department of Transportation Archaeology Series No. 28. Dover.

Coleman, Ellis C., Kevin W. Cunningham, David C. Bachman, Wade P. Catts, Jay F. Custer
1983 **Final Archaeological Investigations at the Robert Ferguson/Weber Homestead, Ogletown, New Castle County, DE.** Delaware Department of Transportation Archaeology Series No. 16. Dover.

Coleman, Ellis C., Kevin W. Cunningham, Wade P. Catts, Jay F. Custer
1985 **Intensive Archaeological Investigations of the Wilson-Slack Agricultural Works Complex, Chestnut Hill Road-Route 4, Newark, New Castle County, DE.** Delaware Department of Transportation Archaeology Series No. 34. Dover.

Coleman, Ellis C., Jay F. Custer, and Angela Hoseth
1987 **Phase I and II Archaeological Investigations of the Ogletown Interchange Improvements Project Area, Newark, Delaware.** Delaware Department of Transportation Archaeology Series (in press). Dover.

Colles, Christopher
1961 **A Survey of Roads of the U.S.A., 1789**, edited by Walter W. Ristow. Reprinted. Harvard University Press, Cambridge. Originally published 1789, New York.

Conrad, Henry C.
1908 **History of the State of Delaware.** 3 vols. Privately published, Wilmington.

Cooch, Francis A.
1936 **Little Known History of Newark, Delaware, and Its Environs.** Press of Kells, Newark.

Custer, J. F.
1984 **Delaware Prehistoric Archaeology: An Ecological Approach.** University of Delaware Press, Newark.

Custer, J. F., and Colleen DeSantis
1985 Preliminary Investigations at the Mitchell Farm Site (7NC-A-2), New Castle County, Delaware. **Pennsylvania Archaeologist** 55(4):38-48.

Egnal, Marc
1975 The Economic Development of the Thirteen Continental Colonies, 1720-1775. **William and Mary Quarterly** 32:191-222.

Futhey, J. Smith and Gilbert Cope
1881 **History of Chester County, Pennsylvania, with Geneological and Biographical Sketches.** Louis H. Everts, Philadelphia.

Green, Richard
n.d. Table of Wilmington, Delaware Bottlers, Druggists, Brewers and Others from City Directories. Unpublished manuscript on file at the University of Delaware Center for Archaeological Research, Newark.

Hancock, Harold B.
1947 Agriculture in Delaware 1789-1900. In **Delaware: A History of the First State**, edited by H. Clay Reed, pp. 373-389. Lewes Historical Publishing Co., Inc., Lewes, Delaware.

Hazen, Edward
1837 **Edward Hazen's Panorama of Victorian Trades and Professions.** Century House, Watkins Glen, NY.

Heite, Edward F.
1983 The Pioneer Phase of the Chesapeake Iron Industry: Naturalization of a Technology. **Quarterly Bulletin, Archaeological Society of Virginia** 38(3):133-181.

Herman, Bernard
1984 Middle Delaware Tour. In **To Build in the Best Manner: Vernacular Architecture in Middle Delaware**, edited by Stephen G. DelSordo. Delaware Division of Historical and Cultural Affairs, Delaware.

Hoffecker, Carol W.
1977 **Delaware: A Bicentennial History.** W. W. Norton and Company, Inc., New York.

Lemon, James T.
1967 Urbanization and the Development of Eighteenth-Century Southeastern Pennsylvania and Adjacent Delaware. **William and Mary Quarterly** 24(4):500-539.

1972 **The Best Poor Man's Country: A Geographical Study of Early Southeastern Pennsylvania.** The Johns Hopkins Press, Baltimore.

Lindstrom, Diane
1978 **Economic Development in the Philadelphia Region 1810-1850.** Columbia University Press, New York.

1979 American Economic Growth Before 1840: New Evidence and New Directions. **The Journal of Economic History** 39(1):289-301.

Main, Jackson T.
1973 **The Social Structure of Revolutionary America.** Princeton University, Princeton.

Manning, Alice E.
1984 Nineteenth Century Farmsteads on the Inner Coastal Plain of New Jersey. In **Historic Preservation Planning in New Jersey: Selected Papers on the Identification, Evaluation, and Protection of Cultural Resources**, edited by Olga Chester, pp. 42-92. Office of New Jersey Heritage, Department of Environmental Protection, Trenton.

Mulligan, William H., Jr.
1984 The Transmission of Skill in a Shoe Industry: Family to Factory Training in Lynn, Massachusetts. In **The Craftsman in Early America**, edited by Ian M. G. Quimby, pp. 234-246. W. W. Norton and Company, New York.

Munroe, John A.
1954 **Federalist Delaware, 1775-1815.** Rutgers University Press, New Brunswick.

Munroe, John A. (cont.)
1978 **Colonial Delaware: A History.** KTO Press, Millwood, NY.

Pursell, Caroll W.
1958 **That Never Failing Stream: A History of Milling Along Red Clay Creek During the Nineteenth Century.** Unpublished Master's thesis, Department of History, University of Delaware.

Simler, Lucy
1986 Tenancy in Colonial Pennsylvania: The Case of Chester County. **Williamand Mary Quarterly,** 3rd series, vol. XLIII, no. 4, pp. 542-569.

Spoljaric, N.
1967 **Pleistocene Channels of New Castle County.** Delaware Geological Survey Report of Investigations No. 10. Delaware Geological Survey, Newark.

Swank, James M.
1884 **History of the Manufacture of Iron in all Ages.** Privately published, Philadelphia.

Taylor, Randolph K., Timothy A. Thompson, Kimberley A. Snyder and William M. Gardner
1987 **Final Archaeological Excavations at the H. Grant Tenancy Site, New Castle County, Delaware.** Delaware Department of Transportation Archaeology Series 56, Dover, DE.

Thornbury, W. D.
1965 **Regional Geomorphology of the United States.** Wiley, New York.

Walzer, John F.
1972 Colonial Philadelphia and its Backcountry. **Winterthur Portfolio** 7:161-173.

Ward, Mary Sam
1968 **Inns and Taverns of Delaware (1800-1850).** Unpublished Master's Thesis, University of Delaware.

MAP SOURCES CONSULTED

Map of New Castle County, Delaware from Original Surveys. Samuel Rea and Jacob Price. Smith and Wister, Philadelphia, 1849.

Map of the Part of New Castle County, Delaware, and Chester County Pennsylvania showing the Preliminary Surveys for the Wilmington and Brandywine Railroad. Published in **Reports Relating to Surveys for the Wilmington and Brandywine Railroad.** Henry Eckel, Wilmington, 1860.

Atlas of the State of Delaware. Pomeroy and Beers,Philadelphia, 1868.

Map of New Castle County, Delaware. G. M. Hopkins and Co., Philadelphia, 1881.

Atlas of the State of Delaware. G. William Baist, Philadelphia, 1893.

MANUSCRIPTS SOURCES CONSULTED

Delaware State Archives

New Castle County Court of Quarter Sessions, Tavern Petitions, 1778-1854, Record Group 2525.

New Castle County Levy Court, Road Petitions 1744-1934, Record Group 2200

New Castle County Court of Common Pleas, Record Group 2815

New Castle County Deed Books

Mill Creek Hundred Tax Assessment Lists, 1785 through 1847

New Castle County Land Warrants and Surveys

New Castle County Orphans Court Records

The Manuscript Census of Delaware, 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1900, 1910

Historical Society of Delaware

Geneological Surname File

Historical Society of Pennsylvania

Jacob and Isaac Taylor Paper, New Castle County Surveys (Vol. 10)

Penn Manuscript Warrants and Surveys

PERSONNEL

Jay F. Custer, Principal Investigator, Director, University of Delaware Center for Archaeological Research, Associate Professor of Anthropology. B.A. in Anthropology, Franklin and Marshall College, M.A., Ph.D. in Anthropology, Catholic University of America. 14 years experience in Middle Atlantic Archaeology.

Wade Catts, Project Supervisor
B.A. in Anthropology/History, University of Delaware. M.A. Candidate in History, University of Delaware. Five years experience in Middle Atlantic Archaeology.

Mark D. Shaffer, crew chief
B.A. in History, Mansfield University. Four years of archaeological experience in the Middle Atlantic.

Dave C. Bachman, field crew
B.A. in Anthropology Arizona State University, M.A. in Anthropology, University of Delaware. Eight years experience in archaeological research in the Middle Atlantic Archaeology.

Julie M. Baker, field crew
B.A. in Classical Archaeology, Dartmouth College. Two seasons of archaeological experience in the Middle Atlantic area.

Ellis C. Coleman, field crew
B.S. in Geology/Anthropology, Washington and Lee University, M.A. in Anthropology/Archaeology, University of Georgia. Eight years experience in historic and prehistoric research in Virginia, Washington, D.C., Georgia, Missouri, New Mexico, Delaware and France.

Gwen Davis, field crew
B.A. in Anthropology, University of Delaware. One year experience in Middle Atlantic Archaeology.

Keith Doms, lab manager and field crew
B.A. in Anthropology, University of Delaware. Eight years of experience in Middle Atlantic Archaeology.

Colleen DeSantis, field crew, data processing and report preparation
B.A. in Anthropology, University of Delaware. Five years experience in Middle Atlantic Archaeology.

Jean French, field crew
B.A. in Anthropology, Bryn Mawr College, M.A. in Anthropology, University of Michigan. Nine years experience in archaeological research in the Middle Atlantic, Midwest, and Southwest.

Jay Hodny, field crew
B.A. in Anthropology, University of North Dakota. Three years experience in Plains Archaeology.

Angela Hoseth, field crew
B.A.in Anthropology,B.S. in Geography, University of North Dakota. Three years experience in Plains Archaeology.

John Ilgenfritz, field crew
B.A. in Biology, University of Delaware. One year experience in Middle Atlantic Archaeology.

Thomas N. Kingsley, field crew
B.A. candidate in Anthropology, University of Delaware. One field session of archaeological experience in Delaware.

Glen Mellin, field crew
B.A. in Anthropology, University of Delaware. Fifteen years experience in Middle Atlantic Archaeology.

Cheryl Trivelli, field crew and lab
B.A. in Anthropology, University of Delaware. One year experience in Middle Atlantic Archaeology.

H. Henry Ward, field crew
B.A. in Anthropology, Ohio Wesleyan University, M.A. in Anthropology, University of Delaware. Six years experience in archaeological research in Eastern North America.

Scott Watson, field crew
B.A. in Anthropology, University of Delaware. Six years experience in archaeological research in the Middle Atlantic.

APPENDIX I

INVENTORY OF GOODS AND CHATTELS OF BERNARD GLATZ, MAY 10, 1842

The Inventory of the Goods and Chattels of Bernard Glatts, deceased, taken this 10th day of May 1842

Item		$
1.	One Bedstead Bed and Bedding	6.00
2.	Do " " " "	5.00
3.	Bureau and Contents	6.00
4.	One Chest	1.00
5.	Small stand	0.37
6.	Half a Dozen Chairs	3.00
7.	Looking Glass	0.25
8.	Carpet of Room No. 1	0.50
9.	Lot of Books, Small Bible & Sundries	0.50
10.	Do " " Do " " "	0.75
11.	Table in Room No. 2	1.00
12.	Do " " " "	0.50
13.	Dough Tray	0.75
14.	Bureau	1.00
15.	Half a dozen chairs	1.25
16.	Three chairs	1.25
17.	One Rocking Chair Small Chair & Craddle	0.50
18.	Lot of Table Clothe	0.75
19.	Looking Glass & Map	0.13
20.	Stove and Pipe : Boilers etc.	3.00
21.	Andiron Shovel & Tongs	1.50
22.	Kittle Pot and Bucket	1.50
23.	A Lot of Kitchen Ware	1.00
24.	A Lot of Tin Ware in Kitchen	0.25
25.	One Pair Flat Irons	0.25
26.	Contents of Cupboard	5.00
27.	One Watch	5.00
28.	Lot of Carpeting in Room No. 2	0.75
29.	Bedstead Bed & Bedding in Room No. 3	11.00
30.	Case of Drawers	1.00
31.	Lot of Carpeting in Room No.3	1.25
32.	One Cardtable	0.75
33.	Bedstead, Bed & Bedding in Garret	1.25
34.	A Lot of Quilts and Bedclothe	4.00
35.	One Side Saddle	3.00
36.	A Lot of Lasts, Shoemakers tools and Benches	2.00
37.	A Lot of Leather upper & sole	3.50
38.	A Lot of Scraps of Leather	1.00
39.	Barrel & Vinegar	0.50
40.	Keg & Vinegar	1.00
41.	Two Meat Tubs	0.50
42.	Two Tubs	0.50
43.	Lot of Tubs	0.62
44.	Churn & Sundries	0.25
45.	Safe and flour Barrel	0.25
46.	Axe & Wood Saw	0.50
47.	Spade, Shovel and etc.	0.25
48.	Dearborn Harness	0.50
49.	Grindstone & Sundries	0.25

Item	$
50. One Cultivator	1.00
51. Dearborn	6.00
52. One Cow	12.00
53. Two pigs	5.00
54. Two Caps of Beer	4.00
55. One Bay Mare Saddle & Briddle	50.00
56. Wheat in ground 2 Bushels Sowing	6.00
57. A Lot of Grass	5.00
Total	170.62

APPENDIX II

ARTIFACT INVENTORY

	General Surface Collection	Disturbed Surface Scatter	PZ Surface Collection	PZ Behind Foundation	Plowzone	Historic Scatter	Surface Historic Scatter	S.C. Foundation	Above Fea. 4	Fea. 4
Ceramic										
Redware	20	1	4	54	13	214	--	7	49	51
Creamware	2	--	--	--	--	--	--	--	--	--
Pearlware	3	--	1	--	--	2	--	--	--	--
Whiteware	12	3	2	26	8	268	--	6	34	51
Ironstone	2	--	1	10	3	47	--	3	--	3
Yellowware	1	--	--	--	1	--	--	--	--	--
Stoneware	--	--	--	2	--	9	--	5	1	--
Rockingham	--	--	--	--	--	2	--	--	--	--
Porcelain	--	--	1	2	1	7	--	--	--	--
Pipe	3	--	1	--	--	1	--	--	--	1
Unid.	--	--	--	--	--	1	--	--	--	--
Earthenware (burned refined)	--	--	--	--	--	2	--	--	--	--
Glass										
Window	--	--	--	--	6	87	--	--	--	34
Bottle	--	2	3	62	12	139	--	2	52	31
Table	--	--	--	--	--	10	--	--	--	--
Lamp	--	--	--	--	1	--	--	--	--	18
Milkglass	--	1	1	2	--	5	--	--	--	--
Unid.	--	--	--	--	7	8	--	--	2	61
Architectural										
Brick	--	--	--	--	--	18	--	1	--	1
Nail										
Cut	1	--	--	8	--	17	--	--	4	--
Staple	1	--	--	--	--	--	--	--	--	--
Unid.	--	--	--	--	--	--	--	--	9	42
Mortar	--	--	--	--	1	2	--	1	--	--
Slate	--	--	--	--	--	1	--	--	--	--
Unid. Metal	1	--	--	4	--	5	--	--	--	18
Personal										
Button	1	--	1	1	--	2	--	2	--	--
Misc.										
Misc. Metal	1	--	1	--	--	5	--	--	1	1
Bone	17	--	19	1	--	--	10	1	--	14
Shell	3	--	1	1	--	27	--	--	2	4
Plastic	--	--	--	--	--	--	1	1	--	--
Ammunition	1	--	--	1	--	--	--	--	--	1
Safety Pin	--	--	--	--	--	--	--	--	--	1
Gunflint	--	--	--	--	--	2	--	--	--	--

	West of Fea. 3 inside the wall	Mixed material	NE Corner of Foundation inside	NE Corner under plaster	T.U. 2C	T.U. 2 Fea. 2 E½	T.U. 2B	Trench 2 NE Corner of Foundation	T.U. 2(A-C) Fea. 2 North "arm"
Ceramic									
Redware	2	13	30	2	231	21	89	--	1
Pearlware	--	--	--	--	21	--	--	--	--
Whiteware	2	20	49	2	147	29	60	1	1
Ironstone	--	2	2	--	--	--	1	--	--
Yellowware	--	1	--	--	--	--	--	--	--
Stoneware	2	--	--	--	11	2	--	--	--
Tin-glazed	--	--	--	--	1	--	--	--	--
Porcelain	--	2	2	1	--	--	--	--	--
Pipe	--	--	2	--	17	--	5	--	--
Earthenware (refined)	--	--	--	--	1	--	--	--	--
Glass									
Window	12	22	--	--	120	--	49	--	--
Bottle	4	25	50	13	19	57	7	2	--
Table	--	2	15	--	--	--	3	--	--
Milkglass	--	1	1	--	--	--	--	--	--
Unid.	--	11	4	3	54	--	11	--	--
Architectural									
Brick	7	--	2	--	36	1	22	--	--
Nail									
Cut	8	12	46	13	21	3	9	--	--
Wire	--	1	3	--	--	--	--	--	--
Staple	--	--	1	--	--	--	--	--	--
Unid.	3	--	2	4	41	--	--	--	--
Mortar	--	--	10	--	23	--	2	--	--
Plaster	6	--	--	--	--	--	--	--	--
Wood	--	--	--	--	--	--	1	--	--
Slate	--	1	2	--	1	--	--	--	--
Concrete	2	--	--	--	--	--	--	--	--
Unid. Metal	3	--	2	4	34	10	3	--	--
Personal									
Button	--	1	6	--	1	--	--	--	--
Misc.									
Misc. Metal	1	--	28	--	--	--	--	--	--
Bone	2	2	74	5	103	4	52	4	--
Shell	--	--	2	--	42	1	5	--	--
Unid.	--	1	--	--	--	--	--	--	--
Pin	--	1	--	--	--	--	--	--	--
Coal	--	--	--	--	2	--	--	--	--
Prehistoric	1	--	--	--	4	--	--	--	--

	PZ above Foundation	Fea. 21 Surface	T.U. 5 PZ	Transect 3	Trench 3 Foundation Wall	Cellar Fill	Demo. job Inside Foundation, south	Demo. job inside Foundation	Inside Foundation N½
Ceramic									
Redware	11	27	47	--	--	10	3	2	20
Creamware	--	4	1	--	--	--	--	--	--
Pearlware	--	4	2	--	--	--	--	2	--
Whiteware	2	31	109	--	--	8	--	29	53
Ironstone	--	--	3	--	--	--	--	--	--
Yellowware	--	2	7	--	--	--	--	--	1
Stoneware	2	3	2	1	--	3	--	--	--
Rockingham	--	--	3	--	--	--	--	--	--
Whieldonware	--	1	--	--	--	--	--	--	--
Porcelain	--	--	2	--	--	--	--	--	1
Pipe	1	--	2	--	--	1	--	--	--
Unid.	--	1	5	--	--	--	--	--	--
Glass									
Window	14	--	130	--	2	--	38	10	38
Bottle	--	--	129	--	--	10	18	17	115
Jar	--	--	--	--	--	--	--	--	2
Table	--	--	4	--	--	4	--	2	2
Lamp	--	--	15	--	--	--	--	--	3
Milkglass	--	--	2	--	--	--	--	--	1
Unid.	1	57	11*	--	--	1	--	--	--
Architectural									
Brick	--	2	5	--	--	--	--	--	1
Nail									
Cut	2	5	19	--	--	1	5	10	17
Unid.	--	7	70	--	--	--	--	--	25
Mortar	1	--	--	--	--	--	--	--	4
Concrete	--	--	--	--	--	1	--	--	--
Unid. Metal	--	2	11	--	3	--	1	2	--
Personal									
Button	2	--	3	--	--	--	--	4	4
Thimble	--	--	--	--	--	--	1	--	--
Ornament/Toy	--	--	--	--	--	--	--	--	5
Pin	--	--	--	--	--	--	--	--	5
Misc.									
Misc. Metal	--	--	3	--	--	5	--	6	43
Bone	5	3	12	--	7	10	3	39	59
Shell	--	2	3	--	--	--	--	12	--
Leather	--	--	--	--	--	--	--	--	2
Slate	--	--	--	--	--	--	--	1	--
Ammunition	--	--	2	--	--	--	1	--	3
Lime	--	--	1	--	--	--	--	--	--
Paint Brush	--	--	--	--	--	--	--	--	1

* = 1 eyeglass lens

	Fea. 7B	Fea. 12 E½	Fea. 12 W½	Fea. 13 W½	Fea. 13 E½	Fea. 14	Fea. 15 E½	Fea. 18 W½	Fea. 18 E½	Fea. 19 E½
Ceramic										
Redware	--	--	3	4	1	7	4	--	--	1
Whiteware	2	1	2	3	3	2	3	2	--	1
Stoneware	--	--	--	--	--	--	1	--	--	--
Pipe	--	--	1	--	--	--	--	--	--	--
Glass										
Window	1	6	28	8	5	7	1	--	--	--
Bottle	--	--	1	--	--	--	--	--	--	--
Lamp	--	3	--	--	--	--	--	--	--	--
Unid.	--	106	53	8	--	5	--	--	1	1
Architectural										
Brick	--	3	2	--	--	1	--	--	--	--
Nail										
Cut	--	1	4	2	--	--	--	1	--	--
Unid.	--	2	2	1	1	3	2	--	--	--
Mortar	--	--	--	1	--	--	--	--	--	--
Unid. Metal	--	--	--	--	--	--	1	--	--	1
Misc.										
Misc. Metal	--	1	3	1	--	--	--	--	--	--
Bone	3	2	3	--	--	2	--	--	3	3
Shell	--	--	--	3	--	2	--	--	--	--

	Fea. 21 Well fill	Fea. 21 N½	Fea. 21 SE¼	Fea. 21 SW½	Fea. 22 N½	Fea. 22(A) N½	Fea. 11 West ½	Fea. 22 South ½	Fea. 23 East ½
Ceramic									
Redware	1	11	41	94	26	2	2	4	--
Whiteware	2	16	109	165	18	6	1	3	10
Ironstone	--	--	--	1	1	--	--	--	--
Yellowware	--	1	--	4	--	--	--	--	--
Stoneware	--	--	2	1	--	--	--	--	--
Porcelain	--	1	4	--	--	--	--	--	--
Pipe	--	--	2	5	--	--	--	--	1
Unid.	--	2	4	--	--	--	--	--	--
Glass									
Window	--	14	112	128	11	5	2	5	4
Bottle	--	73	81	86	18	1	--	8	2
Jar	--	11	4	--	--	--	--	--	--
Table	--	1	4	--	--	--	--	1	--
Lamp	--	--	9	2	--	--	--	--	--
Milkglass	--	1	3	5	--	--	--	--	--
Unid.	--	3	2	--	1	1	--	--	--
Architectural									
Brick	--	--	7	5	--	--	--	3	--
Nail									
Cut	--	139	200	15	3	--	1	2	1
Wire	--	4	6	--	--	--	--	--	--
Unid.	--	18	91	39	--	1	--	--	--
Screws	--	1	2	1	--	--	--	--	--
Plaster	--	1	--	--	--	--	--	--	2
Unid. Metal	--	7	16	56	1	--	--	--	--
Personal									
Button	--	1	2	2	--	--	--	--	--
Coin	--	--	1	--	--	--	--	--	--
Pin	--	1	2	2	--	--	--	--	--
Misc.									
Misc. Metal	--	--	147	29	--	--	--	--	--
Bone	--	8	10	29	--	--	--	--	1
Shell	--	--	3	4	--	--	--	--	7
Leather	--	--	4	--	--	--	--	--	--
Ammunition	--	1	1	--	--	--	--	--	--
Lime	--	--	1	--	--	--	--	--	--
Prehistoric	--	--	2	--	--	--	--	--	--

	Fea. 23 W½	Fea. 26	Fea. 27	Fea. 28	Fea. 29 E½	Fea. 29 W½	Fea. 30	Fea. 31	Fea. 32 S½
Ceramic									
Redware	4	66	29	16	13	5	--	1	5
Creamware	1	--	3	--	--	--	--	--	--
Pearlware	2	--	6	1	3	3	--	--	--
Whiteware	16	92	40	18	18	10	--	9	9
Ironstone	--	--	3	--	--	--	--	--	--
Yellowware	--	1	--	--	--	--	--	--	--
Stoneware	--	--	--	1	--	--	--	--	--
Rockingham	--	--	1	--	--	--	--	--	--
Porcelain	--	1	1	2	--	1	--	--	--
Pipe	1	8	2	--	1	--	--	--	--
Glass									
Window	5	85	8	9	30	74	--	1	14
Bottle	15	4	10	14	3	115	--	--	--
Table	--	--	4	--	--	6	--	--	--
Milkglass	--	2	1	--	--	--	--	--	--
Unid.	--	37	--	--	--	--	--	--	2
Architectural									
Brick	--	--	--	2	1	6	--	--	--
Nail									
Cut	2	27	5	5	2	2	--	--	5
Unid.	--	24	8	14	2	2	--	4	6
Mortar	--	--	--	3	1	--	--	--	4
Plaster	1	--	--	--	--	--	--	--	--
Unid. Metal	1	7	--	--	--	1	--	--	--
Personal									
Button	1	1	1	1	--	--	--	--	--
Pin	--	--	1	--	--	--	--	--	--
Misc.									
Misc. Metal	1	2	3	1	1	--	--	--	--
Bone	--	9	6	1	2	--	2	1	1
Shell	1	3	1	1	21	14	--	1	--
Plastic	--	--	--	--	--	--	--	--	1
Slate	--	--	--	--	--	2	--	--	--
Ammunition	--	--	--	--	--	--	--	--	1
Coal	--	--	--	--	--	2	--	--	2

	Fea. 32 N½	Fea. 33 E½	Fea. 33 W½	Fea. 34	Fea. 34 and 35 Surface Skim	Dripline	Fea. 19 W½	Fea. 15 W½	Fea. 1 Lv. 1
Ceramic									
Redware	2	--	6	--	1	9	2	1	1
Whiteware	5	1	2	--	4	8	--	2	--
Pipe	1	2	--	--	--	--	--	--	--
Glass									
Window	15	6	8	--	--	12	--	2	--
Unid.	2	3	2	--	--	10	--	--	--
Architectural									
Brick	--	2	--	--	--	--	--	--	--
Nail									
Cut	--	--	5	--	--	4	--	--	--
Unid.	--	1	3	--	--	1	--	--	--
Mortar	2	3	--	--	--	--	--	--	--
Unid. Metal	1	10	12	--	--	--	--	3	--
Cement	--	--	--	5	--	--	--	--	--
Misc.									
Misc. Metal	--	1	--	--	--	--	--	--	--
Bone	1	1	2	--	--	--	1	--	--
Shell	--	--	--	5	--	--	--	2	--

	Fea. 2 W½	T.U. 2 (A-C)	T.U. 2 Extension	Fea. 3	Fea. 4 S½	Fea. 7A Lv. 1	Fea. 7	Above Fea. 7	Fea. 20 E½ Lv. 1
Ceramic									
Redware	9	2	2	1	49	7	83	54	4
Creamware	--	--	--	--	3	--	--	--	--
Pearlware	--	--	2	--	2	--	--	--	--
Whiteware	4	2	3	--	30	2	53	106	20
Yellowware	--	--	--	--	4	--	--	--	--
Stoneware	--	--	--	--	2	--	--	4	--
Porcelain	--	--	--	--	--	--	--	1	--
Pipe	--	--	--	--	--	2	10	5	--
Glass									
Window	5	1	--	--	21	17	89	60	50
Bottle	12	1	--	2	7	2	39	18	2
Milkglass	--	--	--	--	2	--	--	--	--
Unid.	4	--	--	--	60	2	--	--	3
Architectural									
Brick	--	1	--	--	--	--	7	5	--
Nail									
Cut	--	--	--	--	11	4	17	18	3
Unid.	1	--	--	--	29	1	13	17	8
Screw	--	--	--	--	--	1	--	--	--
Mortar	--	--	--	--	--	--	2	--	--
Plaster	--	--	--	--	--	--	4	--	--
Unid. Metal	6	--	--	--	16	--	32	12	--
Personal									
Button	--	--	--	--	--	--	--	2	1
Misc.									
Misc. Metal	--	--	--	--	--	--	4	2	3
Bone	--	1	--	--	28	2	44	22	8
Shell	--	--	--	--	3	--	13	5	--

	Fea. 20 W½	T.U. 1 Lv. 1	T.U. 1 Lv. 2	T.U. 1A Lv. 1	T.U. 2 Fea. 2 E½	T.U. 3 shovel skim PZ remainder	Material from Foundation search	N. Foundation Wall Trench	West edge Dist. subsoil surface	Fea. 22A S½
Ceramic										
Redware	2	5	--	1	21	27	9	2	16	5
Pearlware	--	--	--	--	--	--	6	--	1	2
Whiteware	12	7	2	1	29	17	8	3	11	3
Ironstone	--	--	--	--	--	--	7	--	--	--
Yellowware	--	--	--	--	--	--	1	--	--	--
Stoneware	--	--	--	--	2	1	--	--	--	--
Staffordshire	--	--	--	--	--	--	--	--	--	1
Porcelain	--	--	--	--	--	--	4	1	--	1
Pipe	2	1	--	--	--	--	--	--	--	--
Glass										
Window	36	18	4	1	--	16	31	1	2	--
Bottle	--	5	--	1	57	3	22	1	1	13
Table	--	--	--	--	--	--	1	--	--	--
Unid.	2	--	--	1	--	14	--	--	--	--
Architectural										
Brick	1	--	--	--	1	2	--	--	--	--
Nail										
Cut	5	14	5	--	3	5	25	--	--	3
Unid.	6	--	--	1	--	3	--	1	--	--
Mortar	--	3	2	--	--	--	--	--	--	--
Wood	--	--	--	--	--	--	2	--	--	--
Unid. Metal	--	--	5	--	10	1	16	--	--	--
Personal										
Button	1	--	1	--	--	--	2	--	--	--
Pin	--	--	--	--	--	--	2	--	--	--
Misc.										
Misc. Metal	1	2	--	--	--	1	12	--	--	--
Bone	4	5	--	--	4	12	--	--	1	--
Shell	--	--	--	--	1	4	2	--	--	--
Unid.	--	1	--	--	--	--	--	--	--	--
Prehistoric	3	--	--	--	--	1	--	--	--	--
Ground Stone Object	--	1	--	--	--	--	--	--	--	--

APPENDIX III

NOTES ON SITE NUMBERS

NOTES ON SITE NUMBERS
(an example)

7NC-D-102(N-10273)

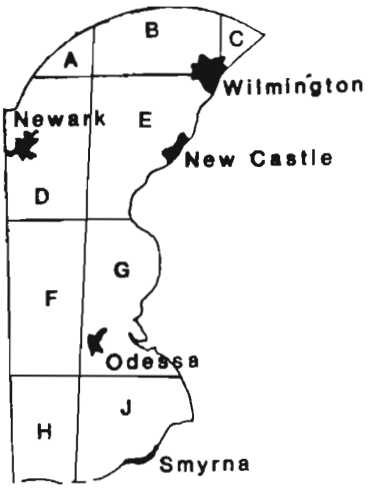
7NC-D-102

7NC-D-102	=	State Site Number
7	=	Numerical prefix identifying the state of Delaware.
NC	=	New Castle County; K = Kent County.
D	=	Each county is divided into lettered divisions, letter D indicates the block in which the site is found in New Castle County, Delaware.
102	=	The 102th site recorded in New Castle County Delaware.

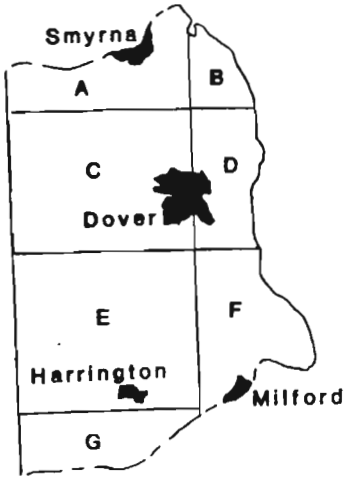
N-10273

N-10273	=	Cultural Resource Survey Number
N	=	New Castle County, Delaware; K = Kent County.
10273	=	The 10273th cultural resource inventoried in New Castle County. Each cultural resource number ties into the aerial photos and management files on repository with the Delaware Division of Historical and Cultural Affairs, Dover, Delaware and/or The Island Field Museum and Research Center, South Bowers, Delaware.

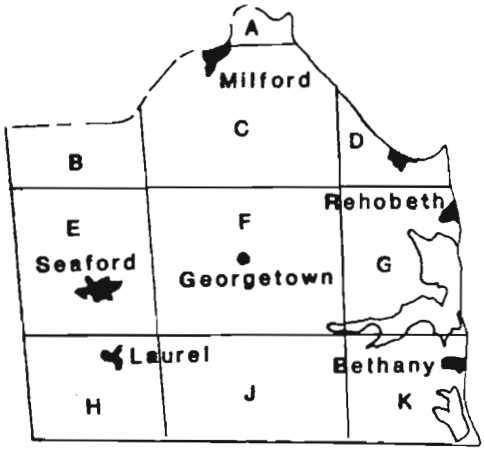
New Castle County-7NC



Kent County-7K



Sussex County-7S



APPENDIX IV

GLOSSARY

Agrarian - Relating to or concerning the land and its ownership, cultivation, and tenure.

Apothecary - One who prepares and sells drugs and medicines; pharmacist.

Archaeology - The study of the people of the past through the recovery and analysis of the artifacts they left behind.

Bloomary Furnace - Type of iron works where bar iron was produced. Bloomeries needed little capital, but didn't produce pig iron, a more useful industrial iron.

Cooper - One who makes or repairs wooden tubs and casks.

Culture - A uniquely human system of habits and customs acquired by man through an extrasomatic process, carried by his society, and used as his primary means of adapting to his environment.

Diagnostic - An artifact that can clearly be dated and\or identified as to maker, date, place or origin, etc.

Dripline - A slight trench or depression left in the soil where a roof overhang was present.

Feature - Any soil disturbance or discoloration that reflects human activity. Also, an artifact that, being too large to remove from a site, normally is recorded only; for example, house, storage pits, etc.

Mean Ceramic Date - A date obtained from the study of historic ceramics recovered from a site, that approximates the median occupation date of the site.

Pedestrian Survey - The walking and collecting of an archaeological site, without the excavation of subsurface units.

Plowzone - In a plowed field, the upper layer of organic soil which is continually reworked by the plow. In the Middle Atlantic region this is about 8-12 inches.

Posthole - A hole dug in th ground into which a post is placed.

Postmold - The organic stain in the ground which is left by a decayed wooden post.A postmold stain may occur inside a posthole stain on an archaeological site.

Probate - Legal establishment of the validity of a will.

Sherds - Name given to fragments of a broken ceramic vessel.

Smelt - To melt or fuse ores, separating the metallic constituents.